

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sn J Lee Examiner #: 76060 Date: 9-20-2005  
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/646,307  
 Mail Box and Bldg/Room Location: 4D60 Results Format Preferred (circle): PAPER DISK E-MAIL  
(Rem.)

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. Acc B.b.

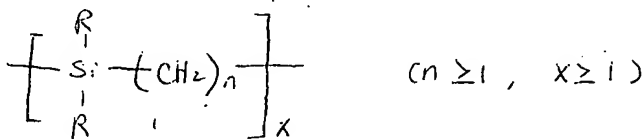
Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Plz. search for a composition which contains

① poly carbosilanes of gen. formula



R = can be H, -Me, -CH<sub>2</sub>-CH=CH<sub>2</sub>, -OR' in which R' = N, ethy, acety

or (chromophore moiety) such as those named on the attached spec. pg. 6.

② Crosslinking component (such as glycoluril, alcohols, aromatic alcohols, hydroxybenzyl, phenol, cycloaliphatic alcohols, aliphatic alcohols, cyclohexanoyl, propanol, non-cyclic alcohols, fluoro-allyl ethers or epoxides)

Give me  
a call,  
if too many  
hits result.  
(Thanks!)

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>lyh</u>	NA Sequence (#) _____	STN <u>703.75</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>9/28/05</u>	Bibliographic _____	Dr.Link _____
Date Completed: <u>9/28/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>60</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>200</u>	Other _____	Other (specify) _____



## UNITED STATES PATENT AND TRADEMARK OFFICE

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Bib Data Sheet

CONFIRMATION NO. 9204

SERIAL NUMBER 10/646,307	FILING DATE 08/22/2003  RULE	CLASS 430	GROUP ART UNIT 1752	ATTORNEY DOCKET NO. YOR920020289US1
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APPLICANTS

Katherina Babich, Chappaqua, NY;  
 Elbert Huang, Tarrytown, NY;  
 Arpan P. Mahorowala, Bronxville, NY; David R. Medeiros, Ossining, NY;  
 Dirk Pfeiffer, Dobbs Ferry, NY;  
 Karen Temple, Croton-on-Hudson, NY;

\*\* CONTINUING DATA \*\*\*\*\*  
 None STL

\*\* FOREIGN APPLICATIONS \*\*\*\*\*  
 None STL

IF REQUIRED, FOREIGN FILING LICENSE GRANTED  
 \*\* 11/13/2003

Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	STATE OR COUNTRY NY	SHEETS DRAWING 1	TOTAL CLAIMS 34	INDEPENDENT CLAIMS 3
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged	Examiner's Signature <i>[Signature]</i>	Initials STL		

ADDRESS

Ryan, Mason & Lewis, LLP  
 Suite 205  
 1300 Post Road  
 Fairfield, CT  
 06824

TITLE

Antireflective hardmask and uses thereof

FILING FEE	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees ( Filing )
		<input type="checkbox"/> 1.17 Fees ( Processing Ext. of time )

The composition may comprise from about 50 weight percent (wt.%) to about 98 wt.%, on a solids basis, polymer. For example, the composition may comprise from about 70 wt.% to about 80 wt.% polymer.

As mentioned above, each R group can be either a chromophore moiety, a transparent moiety, or a crosslinking component. The carbosilane polymer backbone itself is generally transparent to most wavelengths employed. However, the introduction of fluorine-containing moieties or SiO-containing units, which are substantially transparent to the imaging radiation, may be desirable. In some instances, multiple moieties and/or crosslinking components may be present on the same carbosilane or SiO-containing unit. For example, a crosslinking component and a chromophore moiety may be present on the same carbosilane unit.

The chromophore moiety may comprise any suitable chromophore moiety which can be grafted onto the carbosilane or SiO-containing units with suitable radiation absorption characteristics and does not adversely affect the performance of either the antireflective hardmask composition, or any overlying radiation-sensitive layers. Suitable chromophore moieties include, but are not limited to, phenyl, chrysenes, pyrenes, fluoranthrenes, anthrones, benzophenones, thioxanthenes, and anthracenes. Anthracene derivatives, for example those described in Renner, U.S. Patent 4,371,605 "Photopolymerizable Compositions Containing N-hydroxyamide and N-hydroxyimide Sulfonates," the disclosure of which is incorporated by reference herein, may also be used (e.g., 9-Anthracene methanol is a preferred chromophore for 248 nanometer (nm) lithography). The chromophore moiety preferably does not contain nitrogen, except for possibly deactivated amino nitrogen such as in phenol thiazine. For 193 nm lithography, non-aromatic compounds containing unsaturated carbon bonds, e.g., carbon to carbon double bonds, are also suitable chromophores. Highly crosslinked carbosilanes can have suitable optical properties at 193 nm without the addition of a chromophore. For 157 nm

=> fil reg

FILE 'REGISTRY' ENTERED AT 15:49:59 ON 28 SEP 2005

=> d his ful

FILE 'HCAPLUS' ENTERED AT 12:03:10 ON 28 SEP 2005

L1 1 SEA ABB=ON PLU=ON US20050042538/PN  
D SCAN  
SEL RN

FILE 'REGISTRY' ENTERED AT 12:03:31 ON 28 SEP 2005

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1628-01-9/BI OR 2530-83-8/BI OR 2996-92-1/BI OR  
62306-27-8/BI OR 845815-80-7/BI OR 845815-81-8/BI OR  
845815-82-9/BI OR 845815-83-0/BI)  
D SCAN

FILE 'LREGISTRY' ENTERED AT 12:09:44 ON 28 SEP 2005

L3 STR

FILE 'REGISTRY' ENTERED AT 12:10:41 ON 28 SEP 2005

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L5 50 SEA SSS SAM L3 AND L4  
L6 STR L3  
L7 50 SEA SSS SAM L6 AND L4  
D QUE STAT L7  
L8 1 SEA ABB=ON PLU=ON 106-92-3/RN  
D SCAN  
L9 50 SEA SSS SAM L6  
L10 602138 SEA SSS FUL L6  
L11 3 SEA ABB=ON PLU=ON L10 AND L2  
D SCAN  
L12 602138 SEA ABB=ON PLU=ON L10 OR L10  
D RN 300000  
L13 300000 SEA RAN=(163773-54-4,) ABB=ON PLU=ON L10 OR L10  
L14 302138 SEA ABB=ON PLU=ON L12 NOT L13

FILE 'HCAPLUS' ENTERED AT 14:38:12 ON 28 SEP 2005

L15 72410 SEA ABB=ON PLU=ON L13

FILE 'REGISTRY' ENTERED AT 14:39:59 ON 28 SEP 2005

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D RN 150000  
L17 150000 SEA RAN=(114048-53-2,) ABB=ON PLU=ON L12 NOT L13  
L18 152138 SEA ABB=ON PLU=ON L16 NOT L17

FILE 'HCAPLUS' ENTERED AT 14:41:31 ON 28 SEP 2005

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L21 2047 SEA ABB=ON PLU=ON L8  
L22 258114 SEA ABB=ON PLU=ON L15 OR L19 OR L20  
L23 550 SEA ABB=ON PLU=ON L21 AND L22  
L24 89 SEA ABB=ON PLU=ON L23 AND CROSSLINK?  
L25 16236 SEA ABB=ON PLU=ON L22(L) (CROSSLINK? OR ALCOHOL? OR  
ETHER? OR EPOXID? OR OXIRAN?)  
L26 34 SEA ABB=ON PLU=ON L25(L) ANTIREFLECT?  
L27 23 SEA ABB=ON PLU=ON L26 AND PHOTO?/SC,SX  
L28 1 SEA ABB=ON PLU=ON L24 AND ANTIREFLECT?

L29 3 SEA ABB=ON PLU=ON L24 AND PHOTO?/SC,SX  
 L30 25 SEA ABB=ON PLU=ON L27 OR L28 OR L29  
 L31 1 SEA ABB=ON PLU=ON L30 AND L1  
 D L1 ALL  
 L32 58 SEA ABB=ON PLU=ON L25 AND (ANTIREFLECT? OR ANTI(A)REF  
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 L34 1 SEA ABB=ON PLU=ON L23 AND (ANTIREFLECT? OR ANTI(A)REF  
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 D HIT  
 D HIT 2-3

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 L36 62750 SEA ABB=ON PLU=ON L10 AND PMS/CI  
 SAV L36 TEMP LEE307/A

=> d que 135

L6 STR

4  
 H  
 <  
 >  
 Si~C~H  
 1 2 3

#### NODE ATTRIBUTES:

CONNECT IS X2 RC AT 2  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

#### GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 4

#### STEREO ATTRIBUTES: NONE

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 L10 OR L10  
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 L15 72410 SEA FILE=HCAPLUS ABB=ON PLU=ON L13  
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 L23 550 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND L22  
 L24 89 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 AND CROSSLINK?  
 L25 16236 SEA FILE=HCAPLUS ABB=ON PLU=ON L22(L) (CROSSLINK? OR  
 ALCOHOL? OR ETHER? OR EPOXID? OR OXIRAN?)  
 L26 34 SEA FILE=HCAPLUS ABB=ON PLU=ON L25(L) ANTIREFLECT?  
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 L28 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND ANTIREFLECT?

L29 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND PHOTO?/SC,SX  
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 L32 58 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND (ANTIREFLECT?  
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=> fil hcap  
 FILE 'HCAPLUS' ENTERED AT 15:50:16 ON 28 SEP 2005

=> d l35 1-33 ibib abs hitstr hitind

L35 ANSWER 1 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2005:822724 HCAPLUS  
 DOCUMENT NUMBER: 143:238781  
 TITLE: **Antireflective** fluoropolymer layers,  
 films having them, and displays using the  
 films  
 INVENTOR(S): Yoshizawa, Masataka  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005221963	A2	<u>20050818</u>	JP 2004-32107	2004 0209
PRIORITY APPLN. INFO.:			JP 2004-32107	2004 0209

AB The layers, comprising plural layers having different refractive index, have low-refractive index layers containing fluoropolymers and other fluoropolymers containing units derived from CH<sub>2</sub>CR<sub>0</sub>L(CF<sub>2</sub>)<sub>n</sub>H (R<sub>0</sub> = H, halo, Me; L = bivalent linkage; n = 1-18) with unit content ≥50% or F content ≥30% based on total polymer weight  
 In the films, the layers showing good scratch resistance are uniformly formed on transparent substrates, resulting in displays, e.g., liquid crystal displays, forming high-contrast images.

IT 655244-59-0P, Glycidyl vinyl ether  
 -hexafluoropropylene-X 22-169AS copolymer 764650-49-9P,  
 Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer  
 acrylate-X 22-164B copolymer  
 (antireflective films having low-refractive index  
 layers comprising fluoropolymer blends for displays)

RN 655244-59-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)], α-[dimethyl[3-(7-oxabicyclo[4.1.0]hept-3-ylmethoxy)propyl]silyl]-ω-[[dimethyl[3-(7-oxabicyclo[4.1.0]hept-3-

ylmethoxy)propyl)silyl]oxy]-, polymer with  
 [(ethenyloxy)methyl]oxirane and 1,1,2,3,3,3-hexafluoro-1-propene  
 (9CI) (CA INDEX NAME)

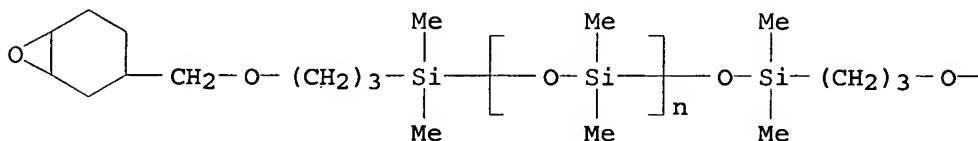
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CRN 192120-80-2

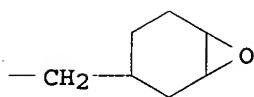
CMF (C2 H6 O Si)<sub>n</sub> C24 H46 O5 Si2

CCI PMS

PAGE 1-A



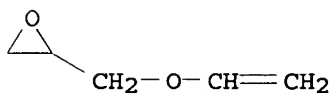
PAGE 1-B



CM 2

CRN 3678-15-7

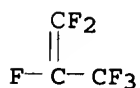
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CM 3

CRN 116-15-4

CMF C3 F6

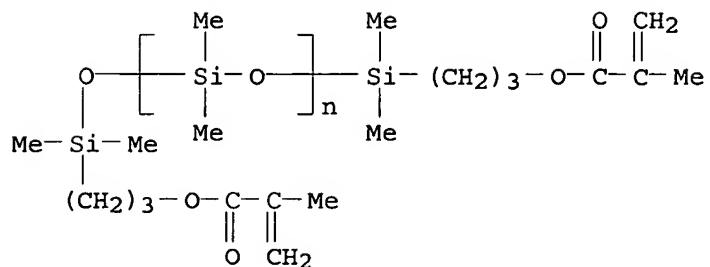


RN 764650-49-9 HCAPLUS

CN Ethanol, 2-(ethenyloxy)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate, polymer with  $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl)silyl]- $\omega$ -[[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl)silyl]oxy]poly[oxy(dimethylsilylene)]  
 (9CI) (CA INDEX NAME)

CM 1

CRN 58130-03-3  
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CCI PMS

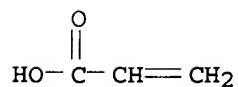


CM 2

CRN 655247-42-0  
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CM 3

CRN 79-10-7  
CMF C3 H4 O2

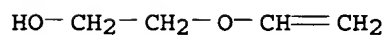


CM 4

CRN 613687-03-9  
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CCI PMS

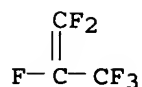
CM 5

CRN 764-48-7  
CMF C4 H8 O2



CM 6

CRN. 116-15-4  
CMF C3 F6



IC ICM G02B001-11  
ICS B32B027-30; G02B001-10  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73  
ST fluoropolymer blend antireflective film display  
IT Liquid crystal displays  
Optical imaging devices  
(antireflective films having low-refractive index  
layers comprising fluoropolymer blends for displays)  
IT Fluoropolymers, preparation  
(antireflective films having low-refractive index  
layers comprising fluoropolymer blends for displays)  
IT Polymer blends  
(antireflective films having low-refractive index  
layers comprising fluoropolymer blends for displays)  
IT Acrylic polymers, preparation  
(silsesquioxane-, fluorine-containing; antireflective  
films having low-refractive index layers comprising  
fluoropolymer blends for displays)  
IT 26246-67-3P, 1H,1H,7H-Dodecafluoroheptyl acrylate homopolymer  
62725-57-9P 655244-59-0P, Glycidyl vinyl ether  
-hexafluoropropylene-X 22-169AS copolymer 764650-49-9P,  
Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer  
acrylate-X 22-164B copolymer 848664-31-3P 860473-66-1P  
862582-61-4P 862582-62-5P 862590-81-6P  
(antireflective films having low-refractive index  
layers comprising fluoropolymer blends for displays)

L35 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:608834 HCAPLUS  
DOCUMENT NUMBER: 143:142869  
TITLE: Flat antireflective films, sheet  
polarizers comprising same films, and liquid  
crystal displays  
INVENTOR(S): Ando, Takumi  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005186275	A2	20050714	JP 2003-426627	2003 1224
PRIORITY APPLN. INFO.: JP 2003-426627				2003 1224

AB The **antireflective** film comprises a transparent support,  $\geq 1$  hard coat layers, and an low-refractive-index outermost layer, wherein the support is made of a cellulose ester film formed by dope casting and treated by stretching in the width direction. The **antireflective** film has a central-line average surface roughness (Ra) of  $\leq 0.10 \mu\text{m}$ . Also claimed is a sheet polarizer comprising a polarizing film, the **antireflective** film protectively formed on one side of the polarizing film, and another protective film on the other side. The another protective film may be made of a hybrid aligned discotic liquid crystalline compound. Also claimed is a liquid crystal display employing the **antireflective** film or the sheet polarizer. The **antireflective** film provides high uniform images.

IT 160716-45-0P, KBM 5103 homopolymer  
(crosslinked, in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)

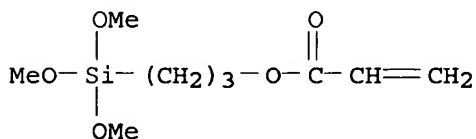
RN 160716-45-0 HCAPLUS

CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 4369-14-6

CMF C9 H18 O5 Si



IT 764650-49-9P, Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer acrylate-X 22-164B copolymer  
(in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)

RN 764650-49-9 HCAPLUS

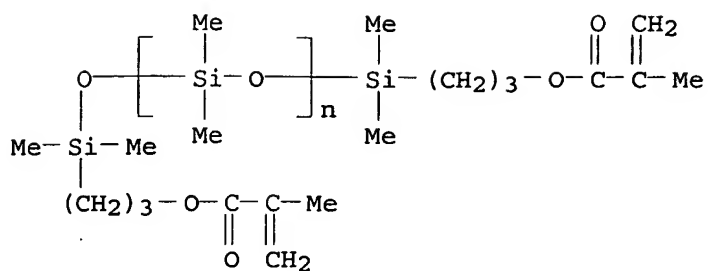
CN Ethanol, 2-(ethenyloxy)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate, polymer with  $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -[[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]oxy]poly[oxy(dimethylsilylene)]  
(9CI) (CA INDEX NAME)

CM 1

CRN 58130-03-3

CMF (C2 H6 O Si)<sub>n</sub> C18 H34 O5 Si2

CCI PMS



CM 2

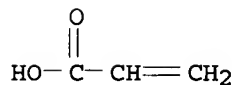
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CMF (C4 H8 O2 . C3 F6)x . x C3 H4 O2

CM 3

CRN 79-10-7

CMF C3 H4 O2



CM 4

CRN 613687-03-9

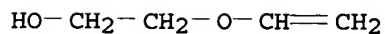
CMF (C4 H8 O2 . C3 F6)x

CCI PMS

CM 5

CRN 764-48-7

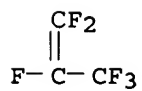
CMF C4 H8 O2



CM 6

CRN 116-15-4

CMF C3 F6



IC ICM B32B023-08

ICS B32B007-02; G02B001-10; G02B001-11; G02B005-30; G02F001-1335;

G02F001-1336

- CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST **antireflective** film support cellulose ester dope casting stretching; sheet polarizer protective **antireflective** film support cellulose ester; liq crystal display **antireflective** film
- IT Polysiloxanes, preparation  
(acrylic, fluorine-containing, in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT Fluoropolymers, preparation  
(acrylic-polysiloxane-, in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT **Antireflective** films  
Liquid crystal displays  
Polarizing films  
(**antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT Casting of polymeric materials  
(cellulose ester dopes; **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT Polysiloxanes, preparation  
(in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 7631-86-9, KE-P 150, uses  
(KE-P 150, in hard coat layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 9004-35-7DP, saponified  
(**antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 9003-53-6, Polystyrene  
(crosslinked, in hard coat layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 160716-45-0P, KBM 5103 homopolymer  
(crosslinked, in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 1314-23-4, Zirconia, uses  
(fine particles, in hard coat layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 188722-79-4P, Dipentaerythritol hexaacrylate-KBM 5103 copolymer  
(in hard coat layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 365440-38-6, DeSolite Z 7526 521322-95-2, Chemisnow MX 150  
701913-07-7, DeSolite Z 7404 799764-53-7, MXS 300 847995-61-3, Chemisnow SX 350H  
(in hard coat layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 121436-62-2P  
(in high-refractive-index layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 847675-61-0, MPT 129C.

(in high-refractive-index layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)

- IT 764650-49-9P, Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer acrylate-X 22-164B copolymer  
(in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)
- IT 853299-87-3, Opstar JN 7228A  
(in low-refractive-index outermost layer; in **antireflective** film containing dope-cast cellulose ester support, for sheet polarizer and LCD)

L35 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:408540 HCAPLUS

DOCUMENT NUMBER: 142:472676

TITLE: **Antireflective** and -glare films, their manufacture, polarizer plates, and displays therewith

INVENTOR(S): Kato, Shinya; Nakamura, Kazuhiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 62 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005122147	A2	20050512	JP 2004-273537	2004 0921
			JP 2003-331517	A 2003 0924

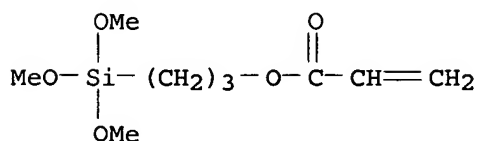
PRIORITY APPLN. INFO.:

AB The films have, on one side of transparent supports (via hardcoat underlayers), **antireflective** layers of uniform thickness, arithmetic average surface roughness (Ra) 0.02-1  $\mu\text{m}$ , average peak-valley pitch 5-65  $\mu\text{m}$ , and  $R_z/R_a \leq 10$  ( $R_z$  = 10-point-average surface roughness). The film surface may be embossed to have the maximum peak height  $\leq 2 \mu\text{m}$  and emboss pattern profile having inclination angle distributed in  $\leq 15^\circ$ . The hardcoat underlayers may be formed from compns. containing polymers with repeating unit [CHA1CA2(LP)] [A1, A2 = H, aliph. group, CO2R1, CH2CO2R1 (R1 = hydrocarbyl; P = monovalent ring-opening polymerizable group or ethylenically unsatd. group); L = single bond, bivalent linking group] and ethylenically unsatd. crosslinking monomers. Manufacture of the films, by surface embossing to make the said texture, is also claimed. Polarizers having the AR films and twisted discotic liquid crystal-employed retarder films as the pair of protective films, are further claimed.

- IT 4369-14-6, 3-Acryloyloxypropyltrimethoxysilane  
(**crosslinking** agents, low-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

RN 4369-14-6 HCAPLUS

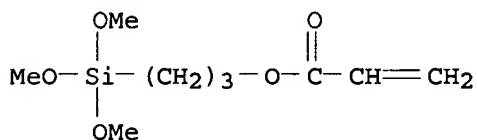
CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



IT 4369-14-6DP, KBM 5103, hydrolyzed, **crosslinked**  
with fluorine-containing polysiloxanes  
(low-n layers; manufacture of embossed **antireflective**  
films having high weatherability for polarizers and displays)

RN 4369-14-6 HCAPLUS

CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



IC ICM G02B001-11

ICS G02B001-10; G02B005-30; G02F001-1335

CC 74-13 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38, 73

ST **antireflective** antiglare film embossed surface  
weatherability; photocationically curable hardcoat underlayer  
**antireflective** film durability; thermally crosslinkable  
hardcoat underlayer **antireflective** film; LCD polarizer  
antiglare embossed **antireflective** film

IT Polyurethanes, preparation  
(acrylic, hardcoat underlayers; manufacture of embossed  
**antireflective** films having high weatherability for  
polarizers and displays)

IT Fluoropolymers, preparation  
(di-Me siloxane-, Opstar JN 7228, acryloyloxypropyltrimethoxysi-  
lane-crosslinked, low-n layers; manufacture of embossed  
**antireflective** films having high weatherability for  
polarizers and displays)

IT Polysiloxanes, preparation  
(di-Me, fluorine-containing, Opstar JN 7228,  
acryloyloxypropyltrimethoxysilane-crosslinked, low-n layers;  
manufacture of embossed **antireflective** films having high  
weatherability for polarizers and displays)

IT Liquid crystals  
(discotic, twisted, retarder films; manufacture of embossed  
**antireflective** films having high weatherability for  
polarizers and displays)

IT Polysiloxanes, preparation  
(fluorine-containing, JSR-JTA 113, reaction products with  
acryloyloxypropyltrimethoxysilane, low-n layers; manufacture of  
embossed **antireflective** films having high  
weatherability for polarizers and displays)

IT **Antireflective films**  
 Embossing  
 Liquid crystal displays  
 Optical imaging devices  
 Polarizers  
 (manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT Polysiloxanes, preparation  
 (methacrylate-, X 22 164C, polymers with unsatd. fluoropolymers, low-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT Fluoropolymers, preparation  
 (polysiloxane-, JSR-JTA 113, reaction products with acryloyloxypropyltrimethoxysilane, low-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 13463-67-7, Titania, uses  
 (alumina- and stearic acid-modified, hardcoat underlayers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 851627-08-2  
 (composite oxides modified with; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 4369-14-6, 3-Acryloyloxypropyltrimethoxysilane  
 (crosslinking agents, low-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 37268-90-9, S 45C, uses  
 (emboss plates; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 851627-05-9P  
 (hardcoat layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 187106-56-5P 851627-06-0P 851632-27-4P  
 (hardcoat underlayers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 184247-27-6, Tipaque TTO 55B  
 (hardcoat underlayers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 835617-38-4P  
 (high-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 851632-19-4P  
 (high-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 9002-89-5, Poly(vinyl alcohol)  
 (iodine-adsorbed, polarizers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 77641-99-7DP, Kayarad DPHA, crosslinked with methacrylate-containing silicones 646508-62-5DP, crosslinked with methacrylate-containing silicones  
 (low-n layers; manufacture of embossed **antireflective** films having high weatherability for polarizers and displays)

IT 7631-86-9, MEK-ST, uses  
 (low-n layers; manufacture of embossed **antireflective**

films having high weatherability for polarizers and displays)  
 IT 4369-14-6DP, KBM 5103, hydrolyzed, crosslinked  
 with fluorine-containing polysiloxanes  
 (low-n layers; manufacture of embossed antireflective  
 films having high weatherability for polarizers and displays)  
 IT 37247-93-1P, Cobalt titanium oxide 37368-09-5P, Titanium  
 zirconium oxide 218275-60-6P, Aluminum cobalt titanium oxide  
 403857-81-8P, Bismuth titanium zirconium oxide  
 (medium-n layers; manufacture of embossed antireflective  
 films having high weatherability for polarizers and displays)  
 IT 851632-20-7P 851632-21-8P 851632-23-0P 851632-24-1P  
 851632-26-3P  
 (medium-n layers; manufacture of embossed antireflective  
 films having high weatherability for polarizers and displays)  
 IT 851627-07-1P, Cobalt tantalum titanium oxide  
 (modified with silyl compds., medium-n layers; manufacture of  
 embossed antireflective films having high  
 weatherability for polarizers and displays)  
 IT 799763-20-5, Wide View Film SA 12B  
 (retarder films; manufacture of embossed antireflective  
 films having high weatherability for polarizers and displays)  
 IT 9004-34-6D, Cellulose, acylates  
 (substrates; manufacture of embossed antireflective films  
 having high weatherability for polarizers and displays)  
 IT 9012-09-3, TD 80UF  
 (substrates; manufacture of embossed antireflective films  
 having high weatherability for polarizers and displays)  
 IT 57-11-4, Stearic acid, uses 1344-28-1, Alumina, uses  
 (titania modifiers; manufacture of embossed antireflective  
 films having high weatherability for polarizers and displays)

L35 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:340697 HCAPLUS

DOCUMENT NUMBER: 142:400724

TITLE: Antireflective films, their optical  
 interference layers, their coatings, and  
 polarizers and displays equipped with the same  
 INVENTOR(S): Maejima, Katsumi; Shibue, Toshiaki; Saito,  
 Koichi

PATENT ASSIGNEE(S): Konica Minolta Opto Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005107093	A2	20050421	JP 2003-339557	2003 0930

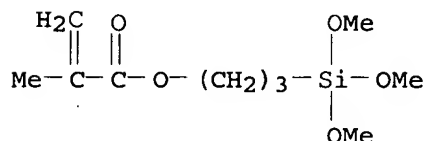
PRIORITY APPLN. INFO.: JP 2003-339557

2003  
0930

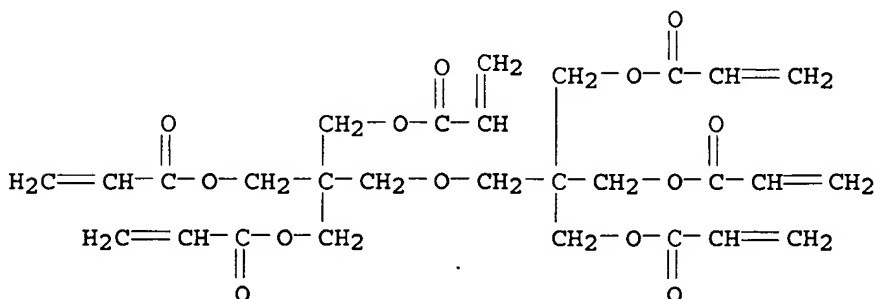
AB The coatings contain oxide microparticles (e.g., silica, Sb oxide,  
 ATO, P-doped Sn oxide, ITO, etc.), organometallic compds., and  
 diacetone alc. (I) and are prepared through a step where the oxide

IT	52004-97-4P, KBM 503 homopolymer (high-n layer coatings; diacetone alc.-containing high-n coatings with stable dispersion of oxide particles for AR films of polarizers)
RN	52004-97-4 HCAPLUS
CN	2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, homopolymer (9CI) (CA INDEX NAME)

CRN 2530-85-0  
CMF C10 H20 O5 Si



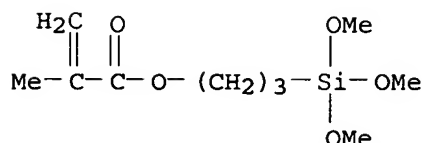
CRN 29570-58-9  
CMF C28 H34 O13



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



IC ICM G02B001-11

ICS B05D007-04; B05D007-24; B32B007-02; G02B005-30

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

Section cross-reference(s): 73

ST antireflective film core shell oxide particle  
dispersibility; organometallic compd oxide dispersion interference  
coating; diacetone alc dispersed microparticulate oxide.  
interference coatingIT Antireflective films  
Liquid crystal displays  
Polarizers(diacetone alc.-containing high-n coatings with stable dispersion  
of oxide particles for AR films of polarizers)IT 52004-97-4P, KBM 503 homopolymer  
(high-n layer coatings; diacetone alc.-containing high-n  
coatings with stable dispersion of oxide particles for AR films  
of polarizers)IT 188722-81-8P  
(high-n layers; diacetone alc.-containing high-n coatings  
with stable dispersion of oxide particles for AR films of  
polarizers)

L35 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:281064 HCAPLUS

DOCUMENT NUMBER: 142:326115

TITLE: Antiglare and antireflective films,  
their manufacture, polarizers therewith, and  
liquid crystal displaysINVENTOR(S): Kawanishi, Naoyuki; Hayashi, Tadashi;  
Fujiwara, Kazuhiko

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005084113	A2	20050331	JP 2003-312868	2003 0904

PRIORITY APPLN. INFO.:

JP 2003-312868

2003

0904

AB Polymer (e.g., cellulose actylates) films are knurled by hot rollers under conditions of contact time 0.1-10 s and film temperature (TE - 30)-TE (°; TE = roller temperature) at the beginning of the knurling to have microunevenness on surface. Polarizers having the films as protective films on one or both sides are further claimed. Displays including the polarizers exhibit improved image quality.

IT 655244-59-0P, Glycidyl vinyl ether  
-hexafluoropropylene-X 22 169AS copolymer  
(low-n layers; manufacture of antiglare and antireflective films by knurling under prescribed temperature conditions for LCD)

RN 655244-59-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[dimethyl[3-(7-oxabicyclo[4.1.0]hept-3-ylmethoxy)propyl]silyl]- $\omega$ -[[dimethyl[3-(7-oxabicyclo[4.1.0]hept-3-ylmethoxy)propyl]silyl]oxy]-, polymer with [(ethenyloxy)methyl]oxirane and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

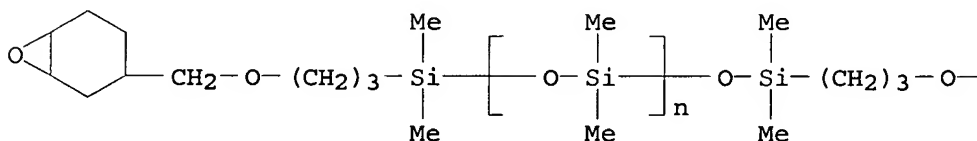
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CRN 192120-80-2

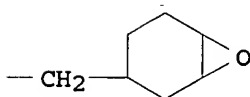
CMF (C2 H6 O Si)<sub>n</sub> C24 H46 O5 Si2

CCI PMS

PAGE 1-A



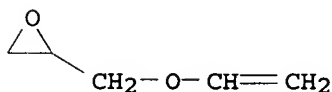
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CM 2

CRN 3678-15-7

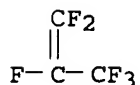
CMF C5 H8 O2



CM 3

CRN 116-15-4

CMF C3 F6



- IC ICM G02B005-02
- ICS G02B001-10; G02B001-11; G02B005-30; G02F001-1335; H05B033-14; H05B033-02
- CC 74-13 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST antiglare **antireflective** polymer film display quality;  
knurling temp condition emboss roll antiglare film; cellulose triacetate antiglare film LCD polarizer
- IT **Antireflective** films  
(antiglare; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT Electroluminescent devices  
(displays; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT Luminescent screens  
(electroluminescent; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT Polysiloxanes, processes  
(fluorine-containing, low-n layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT Embossing  
Liquid crystal displays  
Polarizers  
(manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT Fluoropolymers, processes  
(polysiloxane-, low-n layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT 655247-42-0P, Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer acrylate  
(cured, low-n layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT 88583-06-6P, Kayarad DPHA homopolymer  
(hardcoat layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT 7631-86-9, MEK-ST, uses  
(hardcoat layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT 13463-67-7, Titania, uses 184247-27-6, Tipaque TTO 55B  
(high-n layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT 9002-89-5, Poly(vinyl alcohol)

(iodine-adsorbed, polarizers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)

- IT 655244-59-0P, Glycidyl vinyl ether  
-hexafluoropropylene-X 22 169AS copolymer  
(low-n layers; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)
- IT 9004-34-6D, Cellulose, acylates 9012-09-3, TAC TD 80U  
(substrates; manufacture of antiglare and **antireflective** films by knurling under prescribed temperature conditions for LCD)

L35 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:177131 HCAPLUS

DOCUMENT NUMBER: 142:269522

TITLE: Optical films and their scratch-resistant **antireflective** films for polarizers and display devices

INVENTOR(S): Noro, Masaki; Yasuda, Tomokazu; Ibuki, Shuntaro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005053105	A2	20050303	JP 2003-286798	2003 0805

PRIORITY APPLN. INFO.: JP 2003-286798

2003  
0805

AB The optical films have optically functional layers containing 0.01-10% polymers with Mw 500,000-5,000,000 on transparent substrates. The **antireflective** films are useful as protective films for polarizers of liquid crystal displays.

IT 655244-59-0P, Glycidyl vinyl ether  
-hexafluoropropylene-X 22-169AS copolymer 764650-49-9P,  
Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer  
acrylate-X 22-164B copolymer  
(low-n layer; optical films and their scratch-resistant **antireflective** films for polarizers and display devices)

RN 655244-59-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[dimethyl[3-(7-oxabicyclo[4.1.0]hept-3-ylmethoxy)propyl]silyl]- $\omega$ -[[dimethyl[3-(7-oxabicyclo[4.1.0]hept-3-ylmethoxy)propyl]silyl]oxy]-, polymer with [(ethenyloxy)methyl]oxirane and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

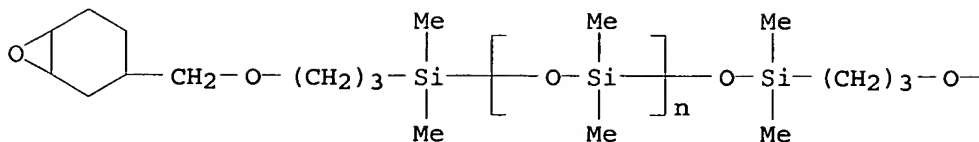
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CRN 192120-80-2

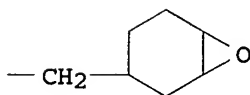
CMF (C2 H6 O Si)n C24 H46 O5 Si2

CCI PMS

PAGE 1-A



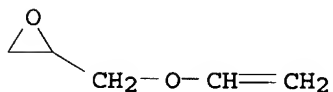
PAGE 1-B



CM 2

CRN 3678-15-7

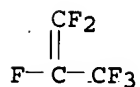
CMF C5 H8 O2



CM 3

CRN 116-15-4

CMF C3 F6



RN 764650-49-9 HCAPLUS

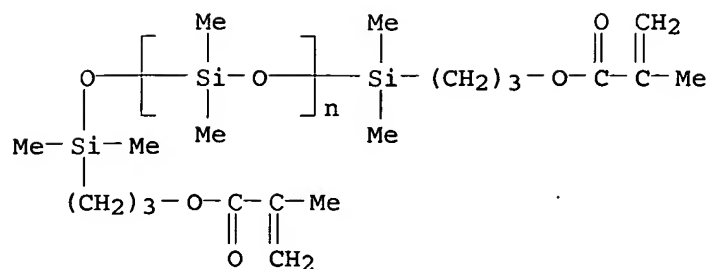
CN Ethanol, 2-(ethenyloxy)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate, polymer with  $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -[[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]oxy]poly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 58130-03-3

CMF (C2 H6 O Si)n C18 H34 O5 Si2

CCI PMS



CM 2

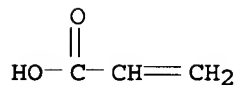
CRN 655247-42-0

CMF (C4 H8 O2 . C3 F6)x . x C3 H4 O2

CM 3

CRN 79-10-7

CMF C3 H4 O2



CM 4

CRN 613687-03-9

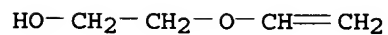
CMF (C4 H8 O2 . C3 F6)x

CCI PMS

CM 5

CRN 764-48-7

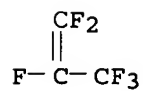
CMF C4 H8 O2



CM 6

CRN 116-15-4

CMF C3 F6



IC ICM B32B027-20

ICS C09D005-00; C09D201-00; G02B001-10; G02B001-11; G02B005-02;

- G02B005-30; G02F001-1335; G09F009-00; H05B033-02; H05B033-14
- CC 74-13 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST optical film **antireflective** scratch resistance  
polarizer; liq crystal display polarizer cellulose triacetate  
film; polyethyl methacrylate silica PMMA particle film;  
dipentaerythritol acrylate zirconia acryloxypropyltrimethoxysilane  
**antireflective** film; polysiloxane fluoropolymer  
**antireflective** film cellulose triacetate
- IT Polysiloxanes, preparation  
(acrylic, fluorine-containing, low-n layer; optical films and their  
scratch-resistant **antireflective** films for polarizers  
and display devices)
- IT Fluoropolymers, preparation  
(acrylic-polysiloxane-, low-n layer; optical films and their  
scratch-resistant **antireflective** films for polarizers  
and display devices)
- IT Silsesquioxanes  
(acrylic; optical films and their scratch-resistant  
**antireflective** films for polarizers and display  
devices)
- IT Fluoropolymers, uses  
(di-Me siloxane-, JN 7228, low-n layer; optical films and their  
scratch-resistant **antireflective** films for polarizers  
and display devices)
- IT Polysiloxanes, uses  
(di-Me, fluorine-containing, JN 7228, low-n layer; optical films  
and their scratch-resistant **antireflective** films for  
polarizers and display devices)
- IT Electroluminescent devices  
(displays, organic; optical films and their scratch-resistant  
**antireflective** films for polarizers and display  
devices)
- IT Luminescent screens  
(electroluminescent, organic; optical films and their  
scratch-resistant **antireflective** films for polarizers  
and display devices)
- IT Polysiloxanes, preparation  
(epoxy, fluorine-containing, low-n layer; optical films and their  
scratch-resistant **antireflective** films for polarizers  
and display devices)
- IT Fluoropolymers, preparation  
(epoxy-polysiloxane-, low-n layer; optical films and their  
scratch-resistant **antireflective** films for polarizers  
and display devices)
- IT **Antireflective** films  
Liquid crystal displays  
Optical films  
Optical imaging devices  
Polarizers  
(optical films and their scratch-resistant  
**antireflective** films for polarizers and display  
devices)
- IT Epoxy resins, preparation  
(polysiloxane-, fluorine-containing, low-n layer; optical films and  
their scratch-resistant **antireflective** films for  
polarizers and display devices)
- IT 7631-86-9, Silica, uses  
(Seahostar KE-P 150; optical films and their scratch-resistant

- antireflective** films for polarizers and display devices)
- IT 9011-14-7, Poly(methyl methacrylate)  
(crosslinked; optical films and their scratch-resistant **antireflective** films for polarizers and display devices)
- IT 655244-59-0P, Glycidyl vinyl ether  
-hexafluoropropylene-X 22-169AS copolymer 764650-49-9P,  
Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer  
acrylate-X 22-164B copolymer  
(low-n layer; optical films and their scratch-resistant **antireflective** films for polarizers and display devices)
- IT 4369-14-6DP, KBM 5103, polymers with UV-curable monomers and dipentaerythritol acrylate 9003-42-3P, Poly(ethyl methacrylate) 9011-15-8P, Poly(isobutyl methacrylate) 9012-09-3DP, TAC-TD 80U, saponified 52004-97-4P, 3-Methacryloyloxypropyltrimethoxysilane homopolymer 77641-99-7DP, Kayarad DPHA, polymers with UV-curable monomers and acryloyloxypropyltrimethoxysilane 88583-06-6P, Kayarad DPHA homopolymer 159338-14-4P, 3-Methacryloyloxypropyltrimethoxysilane homopolymer ladder sru 160716-45-0P, 3-Acryloyloxypropyltrimethoxysilane homopolymer 602305-48-6P, 3-Acryloyloxypropyltrimethoxysilane homopolymer ladder sru  
(optical films and their scratch-resistant **antireflective** films for polarizers and display devices)
- IT 1314-23-4, Zirconia, uses 799764-53-7, MXS 300  
(optical films and their scratch-resistant **antireflective** films for polarizers and display devices)
- IT 701913-07-7, DeSolite Z 7404  
(optical films and their scratch-resistant **antireflective** films for polarizers and display devices)
- IT 613687-03-9P, Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer 655244-55-6P, Glycidyl vinyl ether-hexafluoropropylene copolymer 655247-42-0P, Hexafluoropropylene-2-hydroxyethyl vinyl ether copolymer acrylate  
(optical films and their scratch-resistant **antireflective** films for polarizers and display devices)
- IT 9012-09-3, TAC-TD 80U  
(transparent substrate; optical films and their scratch-resistant **antireflective** films for polarizers and display devices)

L35 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:160708 HCAPLUS

DOCUMENT NUMBER: 142:269217

TITLE: **Antireflective** hard mask and uses thereof

INVENTOR(S): Babich, Katherina; Huang, Elbert; Mahorowala, Arpan P.; Medeiros, David R.; Pfeiffer, Dirk; Temple, Karen

PATENT ASSIGNEE(S): International Business Machines Corporation, USA

SOURCE: U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

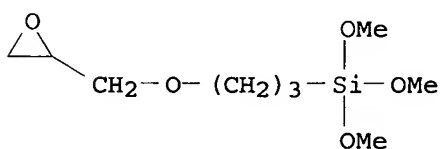
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005042538	A1	20050224	US 2003-646307	2003 0822
JP 2005070776	A2	20050317	JP 2004-237692	2004 0817
PRIORITY APPLN. INFO.:			US 2003-646307	A 2003 0822

AB **Antireflective** hard mask compns. and techniques for the use of **antireflective** hard mask compns. for processing of semiconductor devices are provided. In one aspect of the invention, an **antireflective** hard mask layer for lithog. is provided. The **antireflective** hard mask layer comprises a carbosilane polymer backbone comprising at least one chromophore moiety and at least one transparent moiety, and a **crosslinking** component. In another aspect of the invention, a method for processing a semiconductor device is provided. The method comprises the steps of: providing a material layer on a substrate and forming an **antireflective** hard mask layer over the material layer.

IT 2530-83-8D, Glycidoxypropyltrimethoxysilane, reaction products with dimethoxypolycarbosilane  
 (antireflective hard mask for extreme-UV photolithog.)

RN 2530-83-8 HCAPLUS

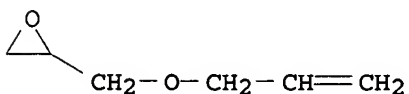
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



IT 106-92-3P, Allyl glycidyl ether 62306-27-8DP, Poly[(methylsilylene)(methylene)], reaction product with allyl glycidyl ether 845815-83-0P  
 (antireflective hard mask for extreme-UV photolithog.)

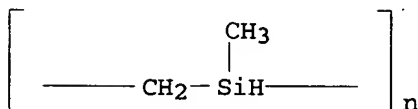
RN 106-92-3 HCAPLUS

CN Oxirane, [(2-propenyloxy)methyl]- (9CI) (CA INDEX NAME)



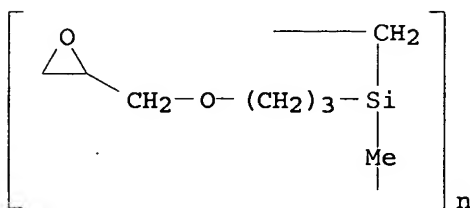
RN 62306-27-8 HCAPLUS

CN Poly[(methysilylene)(methylene)] (9CI) (CA INDEX NAME)



RN 845815-83-0 HCAPLUS

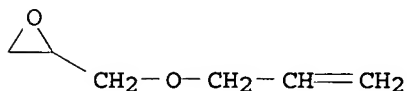
CN Poly[[methyl[3-(oxiranylmethoxy)propyl]silylene]methylene] (9CI)  
(CA INDEX NAME)



IT 106-92-3D, Allyl glycidyl ether, reaction products with  
poly(Me hydrogencarbosilanes)  
(preparation of hard masks for extreme-UV photolithog.)

RN 106-92-3 HCAPLUS

CN Oxirane, [(2-propenyloxy)methyl]- (9CI) (CA INDEX NAME)



IC ICM G03F007-00

INCL 430270100; 430322000; 430950000

CC 74-5 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38, 76

ST antireflective hard mask photolithog semiconductor  
device fabrication

IT Antireflective films  
Semiconductor device fabrication  
(antireflective hard mask for extreme-UV  
photolithog.)

IT Photolithography  
(extreme-UV; antireflective hard mask for extreme-UV  
photolithog.)

IT Silsesquioxanes  
(polycarbosilane-; antireflective hard mask for  
extreme-UV photolithog.)

IT Polycarbosilanes  
(silsesquioxane-; antireflective hard mask for  
extreme-UV photolithog.)

IT 2530-83-8D, Glycidoxypropyltrimethoxysilane, reaction  
products with dimethoxypolycarbosilane 2996-92-1D,  
Phenyltrimethoxysilane, reaction products with  
dimethoxypolycarbosilane  
(antireflective hard mask for extreme-UV)

photolithog.)  
 IT 106-92-3P, Allyl glycidyl ether 62306-27-8DP,  
 Poly[(methylsilylene)(methylene)], reaction product with allyl  
 glycidyl ether 845815-81-8P 845815-82-9P  
 845815-83-0P  
 (antireflective hard mask for extreme-UV  
 photolithog.)  
 IT 1627-98-1 1628-01-9  
 (antireflective hard mask for extreme-UV  
 photolithog.)  
 IT 845815-80-7P  
 (antireflective hard mask for extreme-UV  
 photolithog.)  
 IT 106-92-3D, Allyl glycidyl ether, reaction products with  
 poly(Me hydrogencarbosilanes)  
 (preparation of hard masks for extreme-UV photolithog.)

L35 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:135754 HCAPLUS

DOCUMENT NUMBER: 142:229105

TITLE: Curable block copolyester compositions,  
 articles and having cured layers therefrom,  
 weather-resistant antireflective  
 (AR) films, polarizers, and displays therewith

INVENTOR(S): Kato, Eiichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd.; Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 74 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005042072	A2	20050217	JP 2003-280476	2003 0725

PRIORITY APPLN. INFO.: JP 2003-280476

2003  
0725

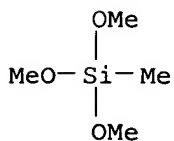
AB The curable comps. contain (1) AB, ABA, or comb-shaped block copolymers composed of block A comprising radically polymerizable monomers and block B of polyesters and (2) comps. which cure with light or heat. The AR film comprises a transparent support having thereon a multilayer composed of a high-refractive index (n.) layer formed by application and curing of the curable comps. and showing n. 1.55-2.50 and a low-n. layer, provided in this order. In another alternative, the AR film comprises a transparent support having thereon a multilayer composed of an antiglare layer formed by application and curing of the curable comps. which further contains mat particles with diameter 0.5-10  $\mu$ m and a low-n. layer, provided in this order. Preferably, a hard coat is disposed between the transparent support and the high-n. layer. The polarizer of the display employs the AR film as at least one of the protective films.

IT 1185-55-3DP, Methyltrimethoxysilane, block copolymers  
 crosslinked with

(curable block copolyester compns. for weather-resistant  
antireflective or antiglare films for protection of  
display polarizers)

RN 1185-55-3 HCAPLUS

CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L087-00

ICS B32B007-02; B32B027-36; C08L055-00; C08L101-02; G02B001-10;  
G02B001-11; G02B005-30

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

Section cross-reference(s): 37, 38

ST block polyester curable antireflective film polarizer;  
display polarizer antireflective film block polyester;  
antiglare film curable block polyester compn; liq crystal display  
polarizer protection film

IT Polyurethanes, preparation

(acrylates, crosslinked, hard coat; curable block copolyester  
compns. for weather-resistant antireflective or  
antiglare films for protection of display polarizers)

IT Polyesters, preparation

(acrylic, block, diblock; curable block copolyester compns. for  
weather-resistant antireflective or antiglare films  
for protection of display polarizers)

IT Polyesters, preparation

(acrylic, block, triblock; curable block copolyester compns.  
for weather-resistant antireflective or antiglare  
films for protection of display polarizers)

IT Polyesters, preparation

(acrylic, graft, comb; curable block copolyester compns. for  
weather-resistant antireflective or antiglare films  
for protection of display polarizers)

IT Antireflective films

Liquid crystal displays  
Polarizers

(curable block copolyester compns. for weather-resistant  
antireflective or antiglare films for protection of  
display polarizers)

IT Polyesters, uses

(curable block copolyester compns. for weather-resistant  
antireflective or antiglare films for protection of  
display polarizers)

IT Fluoropolymers, preparation

(di-Me siloxane-, JSR-JN 7228, crosslinked, low-refractive  
index layer; curable block copolyester compns. for  
weather-resistant antireflective or antiglare films  
for protection of display polarizers)

IT Polysiloxanes, preparation

(di-Me, fluorine-containing, JSR-JN 7228, crosslinked,  
low-refractive index layer; curable block copolyester compns.  
for weather-resistant antireflective or antiglare  
films for protection of display polarizers)

- IT 365441-47-0, DeSolite Z 7402 402829-66-7, SX 200HS  
(antiglare coating component; curable block copolyester compns.  
for weather-resistant **antireflective** or antiglare  
films for protection of display polarizers)
- IT 77641-99-7, Kayarad DPHA  
(antiglare layer-forming composition containing; curable block  
copolyester compns. for weather-resistant  
**antireflective** or antiglare films for protection of  
display polarizers)
- IT 843652-11-9DP, reaction products with glycidyl mercaptoethyl ether  
843652-15-3P 843652-16-4DP, reaction products with  
3-mercaptopropyltrimethoxysilane 844465-65-2P  
(assumed and actual monomers, comb; curable block copolyester  
compns. for weather-resistant **antireflective** or  
antiglare films for protection of display polarizers)
- IT 843663-39-8P  
(assumed and actual monomers, crosslinked, hard coat; curable  
block copolyester compns. for weather-resistant  
**antireflective** or antiglare films for protection of  
display polarizers)
- IT 843652-18-6P  
(assumed and actual monomers, crosslinked; curable block  
copolyester compns. for weather-resistant  
**antireflective** or antiglare films for protection of  
display polarizers)
- IT 791853-65-1P 843651-99-0P 843652-00-6P 843652-02-8DP,  
reaction products with Et carbamate 843652-06-2P 843661-18-7P  
843662-08-8P 844465-57-2P  
(assumed and actual monomers; curable block copolyester compns.  
for weather-resistant **antireflective** or antiglare  
films for protection of display polarizers)
- IT 7631-86-9, Aerosil 200, uses  
(colloidal, Aerosil 200, MEK-ST fine particles, hard coat  
containing; curable block copolyester compns. for weather-resistant  
**antireflective** or antiglare films for protection of  
display polarizers)
- IT 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, reaction products  
with acrylic graft copolymer 843652-09-5P 843652-10-8DP,  
reaction products with glycidyl mercaptoethyl ether  
843652-12-0DP, reaction products with acrylic polyester graft  
copolymers 843652-14-2P 844465-59-4DP, reaction products with  
3-mercaptopropyltrimethoxysilane 844465-61-8DP, reaction  
products with 3-mercaptopropyltrimethoxysilane 844465-63-0P  
844476-62-6DP, reaction products with 3-  
mercaptopropyltrimethoxysilane  
(comb; curable block copolyester compns. for weather-resistant  
**antireflective** or antiglare films for protection of  
display polarizers)
- IT 254887-33-7P  
(crosslinked, hard coat; curable block copolyester compns. for  
weather-resistant **antireflective** or antiglare films  
for protection of display polarizers)
- IT 3454-29-3DP, Trimethylolpropane triglycidyl ether, reaction  
products with comb acrylic polyester graft copolymer and  
p-cyclohexanedimethanol diglycidyl ether 14228-73-0DP, reaction  
products with comb acrylic polyester graft copolymer and  
trimethylolpropane triglycidyl ether 843652-17-5P 843652-19-7P  
843652-22-2P 843652-23-3P  
(crosslinked; curable block copolyester compns. for  
weather-resistant **antireflective** or antiglare films

- for protection of display polarizers)
- IT 1185-55-3DP, Methyltrimethoxysilane, block copolymers crosslinked with 843663-43-4P 844465-68-5P 844465-70-9P  
(curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 51-79-6DP, Ethyl carbamate, reaction products with block copolymers 791853-61-7P 843651-96-7P 843651-97-8P 843652-03-9P 843652-05-1P 843652-20-0P  
(curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 1344-28-1, Alumina, uses  
(fine particles, hard coat containing; curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 844499-17-8  
(low-refractive index layer; curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 766509-47-1, MPT 129  
(medium refractive index layer component; curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 4986-89-4DP, Pentaerythritol tetraacrylate, block copolymers crosslinked with  
(medium refractive index layer; curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 9002-89-5, Poly(vinyl alcohol)  
(polarizer; curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)
- IT 9012-09-3, Fuji Tac TD 80UF 25038-59-9, uses  
(substrate film; curable block copolyester compns. for weather-resistant antireflective or antiglare films for protection of display polarizers)

L35 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1080587 HCAPLUS

DOCUMENT NUMBER: 142:65302

TITLE: Antireflective film material and pattern formation method

INVENTOR(S): Ogihara, Tsutomu; Asano, Takeshi; Iwabuchi, Motoaki; Yagihashi, Fujio

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 28 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004253461	A1	20041216	US 2004-859531	

2004

JP 2005015779

A2

20050120

JP 2004-158639

0602

2004

0528

PRIORITY APPLN. INFO.:

JP 2003-157808

A

2003

0603

AB The object of the present invention is to provide a material for an **antireflective** film that has high etching selectivity with respect to the resist, i.e., that has a faster etching speed than the resist, and a pattern formation method for forming an **antireflective** film layer on a substrate using this **antireflective** film material, and a pattern formation method using this **antireflective** film as a hard mask for substrate processing. The present invention provides a silicone resin for preventing reflection comprising an organic group comprising a carbon-oxygen single bond and/or a carbon-oxygen double bond; a light-absorbing group; and a silicon atom whose terminal end or ends are Si-OH and/or Si-OR. It also provides an **antireflective** film material comprising this silicone resin (A), an organic solvent (B) and an acid generator (C).

IT 143848-14-0DP, ether with methanol

181258-32-2DP, ether with methanol

(antireflective film material and pattern formation method)

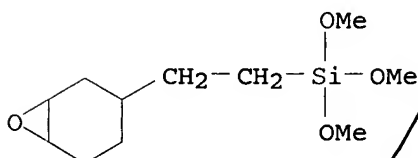
RN 143848-14-0 HCAPLUS

CN Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]-, polymer with trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 3388-04-3

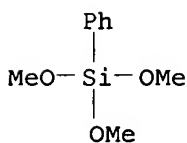
CMF C11 H22 O4 Si



CM 2

CRN 2996-92-1

CMF C9 H14 O3 Si



RN 181258-32-2 HCAPLUS

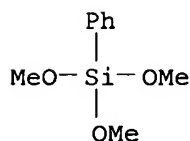
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with

trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

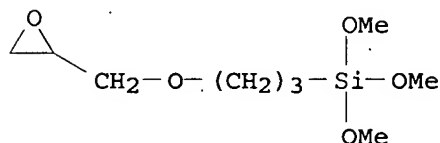
CMF C9 H14 O3 Si



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si



IC ICM B32B009-04

ICS B05D003-02

INCL 428447000; 427387000; 430396000

CC 74-5 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

ST **antireflective** film photolithog photoresist silicone  
resin silsesquioxane

IT **Antireflective** films  
Photoresists

(antireflective film material and pattern formation  
method)

IT Silsesquioxanes

(antireflective film material and pattern formation  
method)

IT 143848-14-0DP, ether with methanol

143848-14-0P 181258-32-2DP, ether with

methanol 181258-32-2P 807368-91-8P 808142-19-0P

(antireflective film material and pattern formation  
method)

L35 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1060580 HCAPLUS

DOCUMENT NUMBER: 142:45916

TITLE: A silsesquioxane-based **antireflective**  
film having high etching selection ratio with  
respect to the photoresist and acting as  
effective hard mask for substrate

INVENTOR(S): Ogihara, Tsutomu; Asano, Takeshi; Iwabuchi,  
Motoaki; Yagihashi, Fujio

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 27 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004247900	A1	20041209	US 2004-858997	2004 0602
JP 2005018054	A2	20050120	JP 2004-165524	2004 0603

PRIORITY APPLN. INFO.: JP 2003-157807 A

AB A material is provided for an **antireflective** film that has high etching selectivity with respect to the resist (it has a faster etching speed than the resist), along with a pattern formation method for forming an **antireflective** film layer on a substrate using this material, and a pattern formation method using this **antireflective** film as a hard mask for substrate processing. Thus, the **antireflective** film composition includes: silsesquioxane polymer, an organic solvent, an acid generator and a crosslinking agent.

IT 143848-14-0P 181258-32-2DP, ether with methanol 181258-32-2P 807366-07-0P 807368-91-8P

(**antireflective** film composition based on silsesquioxane polymer and containing acid generator and **crosslinker** and photolithog. imaging using this film)

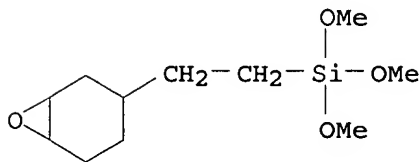
RN 143848-14-0 HCAPLUS

CN Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]-, polymer with trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 3388-04-3

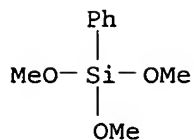
CMF C11 H22 O4 Si



CM 2

CRN 2996-92-1

CMF C9 H14 O3 Si



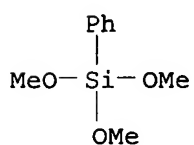
RN 181258-32-2 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

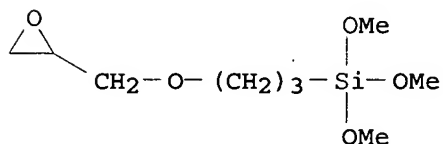
CMF C9 H14 O3 Si



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si



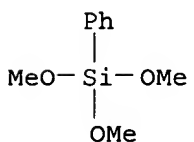
RN 181258-32-2 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

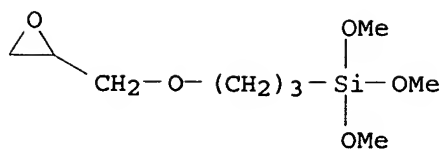
CMF C9 H14 O3 Si



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si

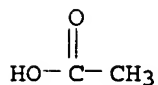


RN 807366-07-0 HCAPLUS  
 CN Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]-,  
 polymer with trimethoxyphenylsilane, acetate (9CI) (CA INDEX  
 NAME)

CM 1

CRN 64-19-7

CMF C2 H4 O2



CM 2

CRN 143848-14-0

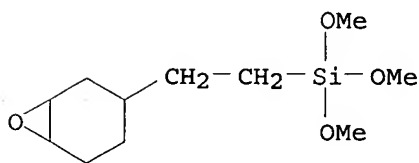
CMF (C11 H22 O4 Si . C9 H14 O3 Si)x

CCI PMS

CM 3

CRN 3388-04-3

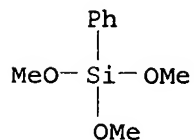
CMF C11 H22 O4 Si



CM 4

CRN 2996-92-1

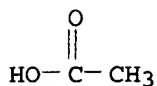
CMF C9 H14 O3 Si



RN 807368-91-8 HCAPLUS  
 CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with trimethoxyphenylsilane, acetate (9CI) (CA INDEX NAME)

CM 1

CRN 64-19-7  
 CMF C2 H4 O2

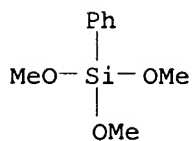


CM 2

CRN 181258-32-2  
 CMF (C9 H20 O5 Si . C9 H14 O3 Si)x  
 CCI PMS

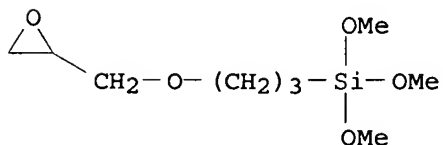
CM 3

CRN 2996-92-1  
 CMF C9 H14 O3 Si



CM 4

CRN 2530-83-8  
 CMF C9 H20 O5 Si



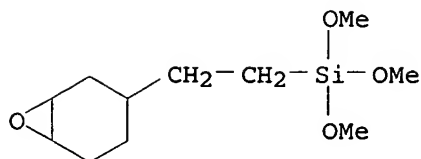
IT 143848-14-0DP, ether with methanol  
 (photolithog. antireflective film composition based on silsesquioxane polymer and containing acid generator and crosslinker)

RN 143848-14-0 HCAPLUS  
 CN Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]-, polymer with trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 3388-04-3

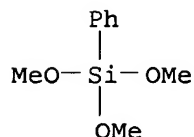
CMF C11 H22 O4 Si



CM 2

CRN 2996-92-1

CMF C9 H14 O3 Si



IC ICM B32B009-04

ICS B05D003-02

INCL 428447000; 427387000; 430396000

CC 74-5 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST photolithog antireflective film silsesquioxane polymer

acid generator crosslinking agent

IT Antireflective films

(antireflective film composition based on silsesquioxane polymer and containing acid generator and crosslinker and photolithog. imaging using this film)

IT Silsesquioxanes

(antireflective film composition based on silsesquioxane polymer and containing acid generator and crosslinker and photolithog. imaging using this film)

IT Silsesquioxanes

(epoxy-; photolithog. imaging using antireflective film based on silsesquioxane polymer and containing acid generator and crosslinker)

IT Refractive index

Thickness

(photolithog. antireflective film composition based on silsesquioxane polymer and containing acid generator and crosslinker)

IT Photoresists

(photolithog. imaging using antireflective film based on silsesquioxane polymer and containing acid generator and crosslinker)

IT Semiconductor device fabrication

(photolithog. imaging using antireflective film based on silsesquioxane polymer and containing acid generator and crosslinker in relation to)

IT Etching

(plasma; A silsesquioxane-based antireflective film

- having high etching selection ratio with respect to the photoresist and acting as effective hard mask for substrate)
- IT Epoxy resins, preparation  
(silsesquioxane-; photolithog. imaging using **antireflective** film based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 603-44-1  
(OH-additive; photolithog. **antireflective** film composition based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 194999-85-4, Bis(4-tert-butylphenyl)iodonium  
perfluorobutanesulfonate 524067-95-6  
(acid generator; photolithog. **antireflective** film composition based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 143848-14-0P 181258-32-2DP, ether with  
methanol 181258-32-2P 807366-07-0P  
807368-91-8P  
(**antireflective** film composition based on silsesquioxane polymer and containing acid generator and **crosslinker** and photolithog. imaging using this film)
- IT 3089-11-0 17464-88-9  
(crosslinker; photolithog. **antireflective** film composition based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 75-59-2, Tetramethylammonium hydroxide  
(developer; photolithog. imaging using **antireflective** film based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate  
(photoacid generator; photolithog. imaging using **antireflective** film based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 143848-14-0DP, ether with methanol  
(photolithog. **antireflective** film composition based on silsesquioxane polymer and containing acid generator and **crosslinker**)
- IT 250378-10-0 330596-02-6 330596-03-7  
(photoresist; photolithog. imaging using **antireflective** film based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 75-46-7, Trifluoromethane  
(plasma etch; **antireflective** film composition based on silsesquioxane polymer and containing acid generator and crosslinker and photolithog. imaging using this film)
- IT 75-73-0, Tetrafluoromethane  
(plasma etch; photolithog. **antireflective** film composition based on silsesquioxane polymer and containing acid generator and crosslinker)
- IT 84540-57-8, Propylene glycol monomethyl ether acetate  
(solvent; photolithog. **antireflective** film composition based on silsesquioxane polymer and containing acid generator and crosslinker)

L35 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1037186 HCAPLUS

DOCUMENT NUMBER: 142:24727

TITLE: Nano-structured and/or nanoporous coating and its preparation and applications

INVENTOR(S): Thies, Jens Christoph; Meijers, Guido Jozefina

Wilhelmus; Nijenhuis, Atze Jan; Currie, Edwin;  
 Tronche, Christopher Frederic; Southwell, John  
 Edmond  
 PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.  
 SOURCE: PCT Int. Appl., 42 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004104113	A1	20041202	WO 2004-NL329	2004 0513

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
 MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,  
 PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
 TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,  
 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,  
 MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1479734	A1	20041124	EP 2003-76510	2003 0520
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 EE, HU, SK

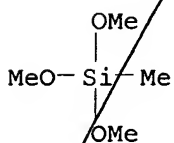
PRIORITY APPLN. INFO.:	EP 2003-76510	A	2003 0520
	US 2003-471746P	P	2003 0520
	EP 2004-75534	A	2004 0220

AB A nano-structured and/or nano-porous coating or film is prepared by applying a mixture, which is composed of reactive nanoparticles having reactive groups on the surface, a solvent, and a compound having  $\geq 1$  polymerizable group, to a substrate, followed by polymerizing the mix. by UV-radiation on the substrate, and the coating increase the transmission of the substrate by  $\geq 0.5$  % and has a contact angle of  $< 60^\circ$ . The above coating can be used as **anti-reflective** coating, membrane, non-crosslinkable species, and displays including light emitting diode display and liquid crystal display. Thus, silica nanoparticles (MT ST) was grafted with a coupling agent Int-12A and methyltrimethoxysilane to obtain modified nanoparticles, which were mixed with photoinitiator (Irgacure 184) and solvent to

receive a coating composition  
 IT 1185-55-3DP, Methyltrimethoxysilane, reactions with  
 acrylic trimethoxysilane and colloidal silica  
 (surface modification, **crosslinked**; preparation of  
 nano-structured and/or nanoporous coating for membrane and  
 displays)

RN 1185-55-3 HCAPLUS

CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C09D004-00

ICS C09D007-12

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38, 74

ST methyltrimethoxysilane alkoxysilane acrylate silica nanoparticle  
**antireflective** coating display membrane

IT **Antireflective** films

Liquid crystal displays

Membranes, nonbiological

Nanoparticles

Optical imaging devices

(preparation of nano-structured and/or nanoporous coating for  
 membrane and displays)

IT 1185-55-3DP, Methyltrimethoxysilane, reactions with  
 acrylic trimethoxysilane and colloidal silica

(surface modification, **crosslinked**; preparation of  
 nano-structured and/or nanoporous coating for membrane and  
 displays)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L35 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:842333 HCAPLUS

DOCUMENT NUMBER: 141:366904

TITLE: Curable compositions with good hardness and  
 low cure shrinkage and cure-treated articles

INVENTOR(S): Kato, Eiichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 64 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004285320	A2	20041014	JP 2003-321972	2003 0912

PRIORITY APPLN. INFO.:

JP 2002-277507

A

2002  
0924

JP 2003-59014

A

2003  
0305

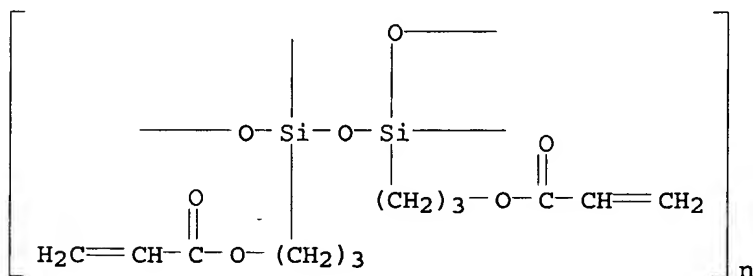
AB Title compns. comprise (A) monofunctional polyester macromers having weight average mol. weight  $\leq 2 + 104$  and polymerizable group at one end and (B) polymerization initiators. Thus, 26.4 g 1,6-hexanediol and 38 g tricyclo[5.2.1.0<sup>2,6</sup>]decane-8,9-dicarboxylic acid were polymerized to give a copolymer with hydroxy value 500  $\mu\text{mol/g}$  and carboxy value 500  $\mu\text{mol/g}$ , 50 g of which was mixed with 4.3 g methacrylic acid and 1.0 g tert-butylhydroquinone and reacted in the presence of dicyclohexylcarbodiimide and 4-(N,N-dimethyl)aminopyridine to give a macromonomer with Mw 5 + 103 and hydroxy value 5  $\mu\text{mol/g}$ , 50 g of the macromonomer was mixed with cyclohexyl acrylate 25, Me methacrylate 25, fine particle dispersion comprising Me iso-Bu ketone 234, anionic group-containing surface treatment agent 36, and alumina particle 180 g 40 (solid base), Me iso-Bu ketone 300, and Irgacure 184 8.5 g, applied on a polyethylene terephthalate film, dried at 120° for 2 min, irradiated, and heated at 120° for 10 min to give a test piece with pencil hardness 3H, good crack and scratch resistance and adhesion, and low shrinkage.

IT 602305-48-6P

(crosslinked, refractive coat; curable compns. with good hardness and low cure shrinkage and cure-treated articles)

RN 602305-48-6 HCAPLUS

CN Poly[[1,3-bis[3-[(1-oxo-2-propenyl)oxy]propyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)



IT 776316-91-7P 776316-93-9P 776316-95-1P

776316-97-3P 776316-99-5P 776317-01-2P

777091-39-1P

(crosslinked; curable compns. with good hardness and low cure shrinkage and cure-treated articles)

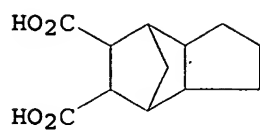
RN 776316-91-7 HCAPLUS

CN 4,7-Methano-1H-indene-5,6-dicarboxylic acid, octahydro-, polymer with cyclohexyl 2-propenoate, 1,6-hexanediol, methyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

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CRN 168196-18-7

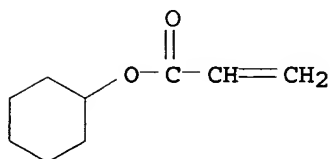
CMF C12 H16 O4



CM 2

CRN 3066-71-5

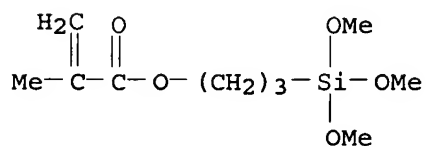
CMF C9 H14 O2



CM 3

CRN 2530-85-0

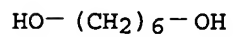
CMF C10 H20 O5 Si



CM 4

CRN 629-11-8

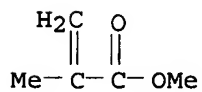
CMF C6 H14 O2



CM 5

CRN 80-62-6

CMF C5 H8 O2



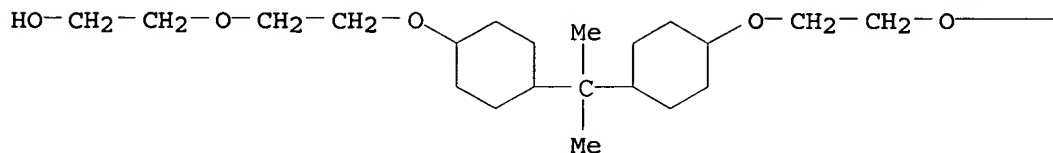
RN 776316-93-9 HCAPLUS  
 CN Hexanedioic acid, polymer with cyclohexyl 2-propenoate,  
 2,2'-[(1-methylethylidene)bis(4,1-cyclohexanediylloxy-2,1-  
 ethanediylloxy)]bis[ethanol], methyl 2-methyl-2-propenoate and  
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX  
 NAME)

CM 1

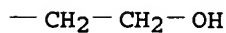
CRN 692778-71-5

CMF C23 H44 O6

PAGE 1-A



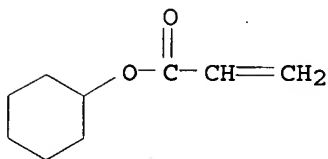
PAGE 1-B



CM 2

CRN 3066-71-5

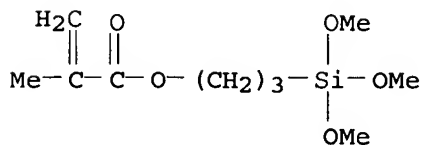
CMF C9 H14 O2



CM 3

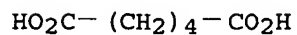
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CMF C10 H20 O5 Si



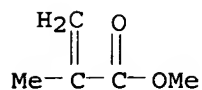
CM 4

CRN 124-04-9  
CMF C6 H10 O4



CM 5

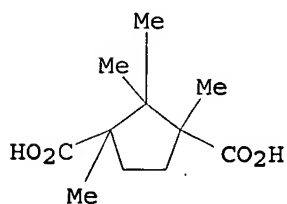
CRN 80-62-6  
CMF C5 H8 O2



RN 776316-95-1 HCAPLUS  
CN 1,3-Cyclopentanedicarboxylic acid, 1,2,2,3-tetramethyl-, polymer with 1,4-butanediol, cyclohexyl 2-propenoate, methyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

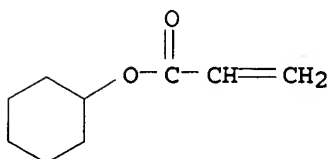
CM 1

CRN 98900-82-4  
CMF C11 H18 O4



CM 2

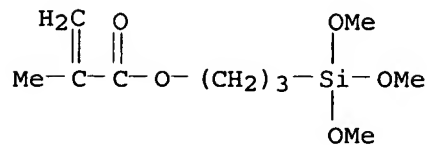
CRN 3066-71-5  
CMF C9 H14 O2



CM 3

CRN 2530-85-0

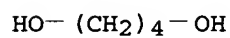
CMF C10 H20 O5 Si



CM 4

CRN 110-63-4

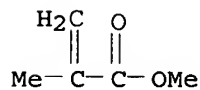
CMF C4 H10 O2



CM 5

CRN 80-62-6

CMF C5 H8 O2



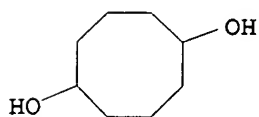
RN 776316-97-3 HCAPLUS

CN Pentanedioic acid, polymer with cyclohexyl 2-propenoate, 1,5-cyclooctanediol, methyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 55343-44-7

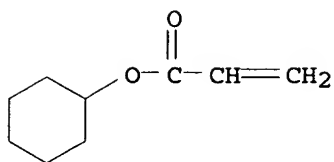
CMF C8 H16 O2



CM 2

CRN 3066-71-5

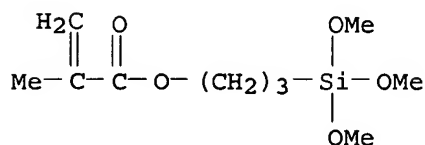
CMF C9 H14 O2



CM 3

CRN 2530-85-0

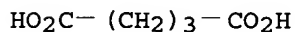
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CM 4

CRN 110-94-1

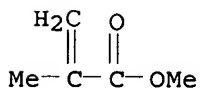
CMF C5 H8 O4



CM 5

CRN 80-62-6

CMF C5 H8 O2



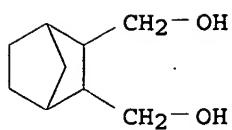
RN 776316-99-5 HCAPLUS

CN Butanedioic acid, methyl-, polymer with bicyclo[2.2.1]heptane-2,3-dimethanol, cyclohexyl 2-propenoate, methyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 45849-05-6

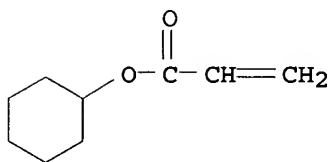
CMF C9 H16 O2



CM 2

CRN 3066-71-5

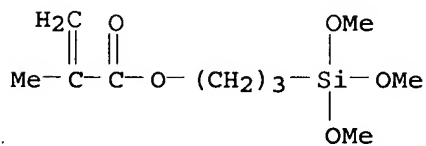
CMF C9 H14 O2



CM 3

CRN 2530-85-0

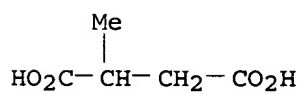
CMF C10 H20 O5 Si



CM 4

CRN 498-21-5

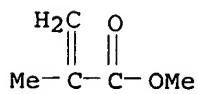
CMF C5 H8 O4



CM 5

CRN 80-62-6

CMF C5 H8 O2

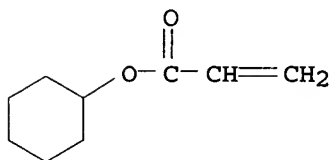


RN 776317-01-2 HCAPLUS  
 CN 1,2-Cyclohexanedicarboxylic acid, polymer with  
 1,4-benzenedimethanol, cyclohexyl 2-propenoate, methyl  
 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 3066-71-5

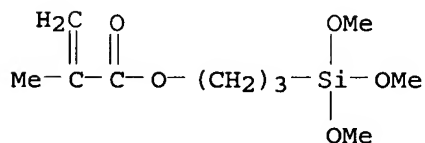
CMF C9 H14 O2



CM 2

CRN 2530-85-0

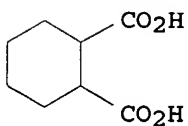
CMF C10 H20 O5 Si



CM 3

CRN 1687-30-5

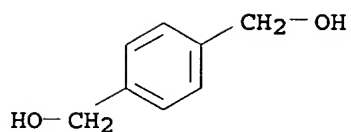
CMF C8 H12 O4



CM 4

CRN 589-29-7

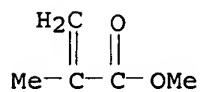
CMF C8 H10 O2



CM 5

CRN 80-62-6

CMF C5 H8 O2



RN 777091-39-1 HCAPLUS

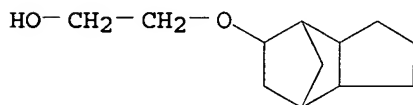
CN Pentanedioic acid, polymer with cyclohexyl 2-propenoate, methyl 2-methyl-2-propenoate, 2,2'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis(oxy)]bis[ethanol] and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 693243-46-8

CMF C14 H24 O4

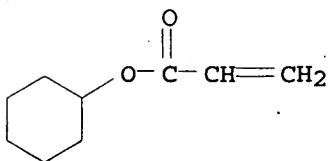
CCI IDS

HO-CH<sub>2</sub>-CH<sub>2</sub>-O-D1

CM 2

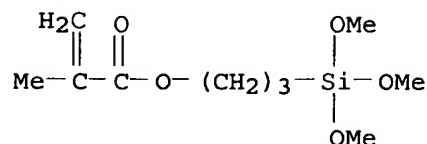
CRN 3066-71-5

CMF C9 H14 O2



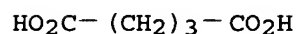
CM 3

CRN 2530-85-0  
CMF C10 H20 O5 Si



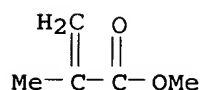
CM 4

CRN 110-94-1  
CMF C5 H8 O4



CM 5

CRN 80-62-6  
CMF C5 H8 O2



IC ICM C08F290-06  
ICS C09D004-00; C09D005-00; C09D007-12; C09D167-06; G02B001-10  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 74  
IT **Antireflective** films  
Optical imaging devices  
Polarizers  
Polarizing films  
(curable compns. with good hardness and low cure shrinkage and  
cure-treated articles)  
IT 602305-48-6P  
(**crosslinked**, refractive coat; curable compns. with  
good hardness and low cure shrinkage and cure-treated articles)  
IT 776316-91-7P 776316-93-9P 776316-95-1P  
776316-97-3P 776316-99-5P 776317-01-2P  
776317-11-4P 776317-13-6P 776317-15-8P 776317-17-0P  
776317-21-6P 777091-39-1P 777945-28-5P  
(**crosslinked**; curable compns. with good hardness and  
low cure shrinkage and cure-treated articles)

L35 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2004:801619 HCAPLUS  
DOCUMENT NUMBER: 141:322708  
TITLE: High-refractive index cured films, preparation  
of curable coating compositions for films, and  
**antireflective** films, polarizers, and

INVENTOR(S): Kato, Eiichi  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004271735	A2	20040930	JP 2003-60351	2003 0306

PRIORITY APPLN. INFO.:

JP 2003-60351

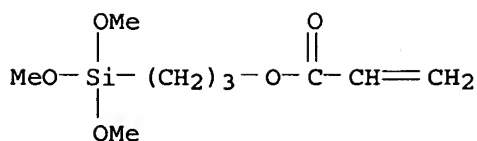
2003  
0306

AB The cured films with refractive index 1.6-2.4 are formed from curable coating compns. containing (A) TiO<sub>2</sub>-based inorg. fine particles containing Co, Zr, and/or Al, (B) hydrolyzable functional group-containing organometallic compds. and/or their partial condensates, and optionally, (C) actinic energy ray-reactive and hydrolyzable functional group-containing organosilicon compds. and/or their partial condensates and photopolym. initiators. The preparation of the curable coating compns. involves a step of inorg. ultrafine particle dispersions with mean particle size ≤100 nm by wet dispersion of the inorg. particles and dispersing agents containing ≥1 polar groups by using media with mean particle size <1 mm. The **antireflective** (AR) film comprises a transparent support having thereon a bilayered structure composed of the cured film layer topped with a low-refractive index (n.) layer having n. <1.55. In another alternative, the AR film comprises a transparent support having thereon a 3-layered structure composed of bilayers of the cured film layers with different n. topped with a low-n. layer having n. <1.55. The polarizer employs the AR film as at least one of the protective films of the polarizing film. In another alternative, the polarizer employs the AR film as one of the protective films of the polarizing film and an optically compensating film having optical anisotropy as the other protective film of the polarizing film. The display is assembled with the AR film or the polarizer on the imaging surface.

IT 4369-14-6DP, KBM 5103, hydrolytic condensate, polymer with heat-crosslinkable polysiloxane-fluoropolymers (low refractive index layer; preparation of curable coating compns. for **antireflective** protective films for display polarizers)

RN 4369-14-6 HCAPLUS

CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



- IC ICM G02B001-10  
ICS B32B009-00; B32B027-04; C08J005-18; C09D004-00; C09D005-00;  
C09D007-12; C09D143-04; C09D183-04; C09D185-00; G02B005-30;  
G02F001-1335; C08L083-04
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST cobalt contg titania cured **antireflective** film;  
zirconium contg titania cured **antireflective** film;  
aluminum contg titania cured **antireflective** film; UV  
curable coating **antireflective** film display; display  
polarizer protection **antireflective** film titania
- IT Fluoropolymers, preparation  
(crosslinked, antisoiling layer; preparation of curable coating  
comps. for **antireflective** protective films for  
display polarizers)
- IT Fluoropolymers, preparation  
(di-Me siloxane-, Opstar JN 7228, crosslinked, low refractive  
index layer; preparation of curable coating comps. for  
**antireflective** protective films for display polarizers)
- IT Polysiloxanes, preparation  
(di-Me, fluorine-containing, Opstar JN 7228, crosslinked, low  
refractive index layer; preparation of curable coating comps. for  
**antireflective** protective films for display polarizers)
- IT **Antireflective** films  
Optical imaging devices  
Polarizers  
(preparation of curable coating comps. for **antireflective**  
protective films for display polarizers)
- IT Silsesquioxanes  
(silicate-, high refractive index layer; preparation of curable  
coating comps. for **antireflective** protective films  
for display polarizers)
- IT Silicates, preparation  
(silsesquioxane-, high refractive index layer; preparation of  
curable coating comps. for **antireflective** protective  
films for display polarizers)
- IT 9012-09-3, Fuji Tac TD 80UF  
(base film; preparation of curable coating comps. for  
**antireflective** protective films for display polarizers)
- IT 251981-52-9P, Opstar JSR-JN 7214  
(crosslinked, antisoiling layer; preparation of curable coating  
comps. for **antireflective** protective films for  
display polarizers)
- IT 758705-19-0 763271-19-8 763271-35-8 763271-42-7  
(dispersing agents; preparation of curable coating comps. for  
**antireflective** protective films for display polarizers)
- IT 13463-67-7, Titania, uses  
(fine particles, containing Co, Zr, and/or Al; preparation of curable  
coating comps. for **antireflective** protective films  
for display polarizers)
- IT 254887-33-7P, DPHA-UV 6300B copolymer

- (hard coat layer; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 67653-78-5P, DPHA homopolymer  
(hard coating; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 152791-95-2P 763271-62-1P 763271-69-8P  
(high refractive index layer; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 9002-89-5, Poly(vinyl alcohol)  
(iodine-doped, polarizing film; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 4369-14-6DP, KBM 5103, hydrolytic condensate, polymer with heat-crosslinkable polysiloxane-fluoropolymers  
(low refractive index layer; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 763271-49-4P  
(medium refractive index layer; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 766509-47-1, MPT 129  
(preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 9012-09-3DP, Fuji Tac TD 80UF, saponified  
(protective film; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 7429-90-5, Aluminum, uses 7440-48-4, Cobalt, uses 7440-67-7, Zirconium, uses  
(titania fine particles containing; preparation of curable coating compns. for antireflective protective films for display polarizers)
- IT 194739-90-7, YTZ  
(wet milling ball; preparation of curable coating compns. for antireflective protective films for display polarizers)

L35 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:759183 HCAPLUS

DOCUMENT NUMBER: 141:268689

TITLE: Antisoiling optical films with good oil repellency and displays equipped therewith

INVENTOR(S): Oka, Shigeki; Ikeda, Toshiyuki

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 55 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004258348	A2	20040916	JP 2003-49281	

2003  
0226

PRIORITY APPLN. INFO.: JP 2003-49281

2003  
0226

OTHER SOURCE(S): MARPAT 141:268689

AB The optical films (e.g., antireflective films) show soiling resistance obtained by treating their surfaces (comprising metal oxides prepared by CVD or sol-gel process) with 0.01-10% fluoroalkyl(ether)-containing silane solns. in (environmentally friendly) F-free organic solvents, without loss of optical/mech. properties. The treatment may be proceeded with the above solns. of concentration 0.01-5%, incorporated with 0.01-15% (alkyl)alkoxysilanes or 0.01-5% Si-isocyanates. PH of the solns. may be adjusted to  $\leq 5$  by acids.

IT 187817-23-8P, Dimethyldimethoxysilane-2-perfluorooctylethyltrimethoxysilane copolymer 756527-29-4P 756527-31-8P

(antisoiling coatings; oxide-surfaced antireflective films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

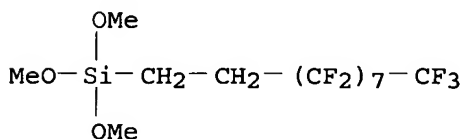
RN 187817-23-8 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

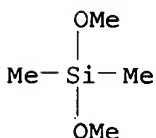
CMF C13 H13 F17 O3 Si



CM 2

CRN 1112-39-6

CMF C4 H12 O2 Si



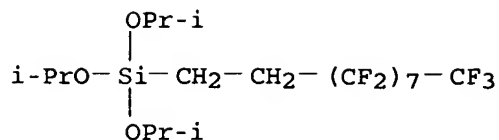
RN 756527-29-4 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)tris(1-methylethoxy)silane (9CI) (CA INDEX NAME)

CM 1

CRN 246234-80-0

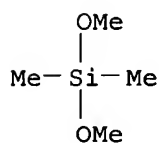
CMF C19 H25 F17 O3 Si



CM 2

CRN 1112-39-6

CMF C4 H12 O2 Si



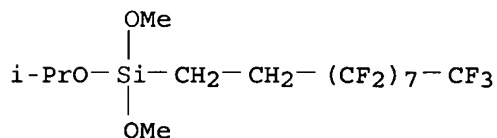
RN 756527-31-8 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with  
(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-  
heptadecafluorodecyl)dimethoxy(1-methylethoxy)silane (9CI) (CA  
INDEX NAME)

CM 1

CRN 756527-30-7

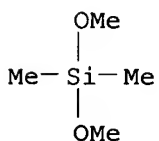
CMF C15 H17 F17 O3 Si



CM 2

CRN 1112-39-6

CMF C4 H12 O2 Si



IC ICM G02B001-10

ICS B05D005-00; B05D007-04; B32B027-00; C08J007-06; G02B001-11;  
G02F001-1335; C08L001-10

CC 74-13 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 42, 43, 73

ST cellulose acetate **antireflective** film antisoiling coating fluoroalkylsilane; silicon oxide surface **antireflective** film antisoiling coating; display **antireflective** film antisoiling oil repellent coating; methoxysilane fluorodecylsilane isopropoxide copolymer antisoiling coating

IT Silanes  
(alkoxy, antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Oxides (inorganic), preparation  
(**antireflective** surface layers; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Coating materials  
(antisoiling; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Silanes  
(fluoroalkyl, antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Acids, uses  
(for adjusting pH of antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Coating materials  
(oil-resistant; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT **Antireflective** films  
Optical imaging devices  
(oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Silsesquioxanes  
(polysiloxane-, fluorine-containing, antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Fluoropolymers, preparation  
(polysiloxane-silsesquioxane-, antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Isocyanates  
(silicon-containing, antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT Polysiloxanes, preparation  
(silsesquioxane-, fluorine-containing, antisoiling coatings; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT 9012-09-3, Cellulose triacetate  
(Konica Tac KC 8UF-HA, film substrate; oxide-surfaced **antireflective** films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

IT 7631-86-9P, Silica, preparation 13463-67-7P, Titanium oxide, preparation

- (antireflective surface layers; oxide-surfaced antireflective films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)
- IT 1320-67-8, Propylene glycol monomethyl ether (antisoiling coatings, solvents; oxide-surfaced antireflective films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)
- IT 187817-23-8P, Dimethyldimethoxysilane-2-perfluorooctylethyltrimethoxysilane copolymer 756527-29-4P 756527-31-8P (antisoiling coatings; oxide-surfaced antireflective films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)
- IT 7697-37-2, Nitric acid, uses (for adjusting pH of antisoiling coatings; oxide-surfaced antireflective films equipped with antisoiling coatings of fluoroalkyl(ether)-containing silanes for displays)

L35 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:756784 HCAPLUS

DOCUMENT NUMBER: 141:279149

TITLE: Curable compositions giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and antireflective laminates using them

INVENTOR(S): Shinohara, Noriyasu; Suzuki, Yasunobu; Tanabe, Takayoshi

PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.; JSR Corporation; Japan Fine Coatings Co., Ltd.

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004078855	A1	20040916	WO 2004-NL125	2004 0218
W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI, NI, NO				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004269644	A2	20040930	JP 2003-60897	2003 0307

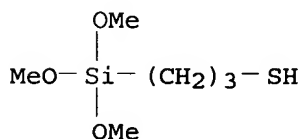
PRIORITY APPLN. INFO.:

JP 2003-60897

A

2003  
0307

- AB The compns. with good curability and coatability, are used together with a low-refractive-index film to form laminates useful as **antireflection** members of LCD devices, touch panels, optical devices, etc. with low reflectance and good chemical resistance. The curable compns. comprise: (A) particles obtained by bonding oxide particles of Si, Al, Zr, Ti, Zn, Ge, In, Sn, Sb or/and Ce with an organic compound having a polymerizable unsatd. group, (B) a melamine compound having no polymerizable unsatd. group, and (C) a compound which has a polymerizable unsatd. group and has a OH number of  $\geq 110$  mg-KOH/g.
- IT 4420-74-0DP,  $\gamma$ -Mercaptopropyltrimethoxysilane, reaction products with IPDI and triacrylate, **crosslinked** compds. with polyacrylates  
(surface treatment for oxides; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- RN 4420-74-0 HCAPLUS
- CN 1-Propanethiol, 3-(trimethoxysilyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



- IC ICM C09D004-06  
ICS C08F230-08; G02B001-11; C08F290-06; C09C003-12; B32B007-10;  
C08F292-00; C08K003-00; C08K009-04
- CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 74
- ST **antireflection** film laminate surface coated metal oxide particle coating; melamine surface coated metal oxide particle **antireflective** coating
- IT **Antireflective** films  
(laminates; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT Fluoropolymers, uses  
(low-refractive index film; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT Aminoplasts  
(manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT Polyesters, uses  
(manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT 9003-08-1, Cymel 238

- (Cymel 303 and; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT 7631-86-9, Snowtex MEK-ST, uses  
(colloidal; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT 25038-59-9, A 4300, uses  
(film substrate; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT 87605-70-7DP, Aronix M 215, crosslinked compds. with unsatd. group-containing thiourethane compds. 757232-00-1P, Ethyl vinyl ether-hexafluoropropylene-2-hydroxyethyl vinyl ether-Adeka Reasoap NE 30-perfluoro(propyl vinyl ether) graft copolymer 757247-00-0P, Ethyl vinyl ether;ethylene oxide;hexafluoropropylene; 2-hydroxyethyl vinyl ether;perfluoro(propyl vinyl ether) graft copolymer nonylphenyl ether  
(manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT 1306-38-3, Cerium oxide, uses 1309-64-4, Antimony oxide, uses 1310-53-8, Germanium oxide, uses 1312-43-2, Indium oxide 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconia, uses 1332-29-2, Tin oxide 1344-28-1, Alumina, uses 13463-67-7, Titania, uses  
(manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- IT 3524-68-3DP, Kayarad PET 30, crosslinked compds. with unsatd. group-containing thiourethane compds. 3524-68-3DP, Pentaerythritol triacrylate, reaction products with IPDI and mercaptopropyltrimethoxysilane, crosslinked compds. with polyacrylates 4098-71-9DP, IPDI, reaction products with mercaptopropyltrimethoxysilane and triacrylate, crosslinked compds. with polyacrylates 4420-74-0DP,  $\gamma$ -Mercaptopropyltrimethoxysilane, reaction products with IPDI and triacrylate, **crosslinked** compds. with polyacrylates 4986-89-4DP, Pentaerythritol tetraacrylate, crosslinked compds. with unsatd. group-containing thiourethane compds. 29570-58-9DP, Dipentaerythritol hexaacrylate, crosslinked compds. with unsatd. group-containing thiourethane compds. 60506-81-2DP, Dipentaerythritol pentaacrylate, crosslinked compds. with unsatd. group-containing thiourethane compds.  
(surface treatment for oxides; manufacture of curable compns. giving hard cured coat films with high refractive index and good scratch resistance and adhesion to substrate and **antireflective** laminates using them)
- REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L35 ANSWER 16 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2004:391585 HCAPLUS  
DOCUMENT NUMBER: 140:365831  
TITLE: Imaging devices and their **antireflective** films producing

reflection light with clear tone  
 INVENTOR(S): Hirano, Satomi  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

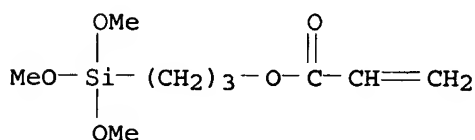
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004138662	A2	20040513	JP 2002-300747	2002 1015
PRIORITY APPLN. INFO.:			JP 2002-300747	2002 1015

AB The films satisfy average specular reflectance at incident angle 5° in 450-650 nm  $\leq 0.5\%$  and produce specular reflection with CIE-L\*a\*b\* color system (standard light source D 65, 380-780 nm)  $0 \leq a^* \leq 7$  and  $-10 \leq b^* \leq 0$  at incident angle 5° and  $a^* \geq 0$  and  $b^* \leq 0$  at 5-45°. Each of **antireflective** layers may be prepared from radiation- and/or heat-curable coatings.

IT 4369-14-6, 3-Acryloyloxypropyltrimethoxysilane (crosslinking agents, low-n layers; imaging devices and their **antireflective** films imparting reflection light with clear color tone)

RN 4369-14-6 HCAPLUS

CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



IC ICM G02B001-11  
 ICS B32B007-02; G02F001-1335

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38, 73

ST imaging device **antireflective** film reflection color tone; specular reflectance color tone display **antireflective** film

IT Fluoropolymers, preparation  
 (di-Me siloxane-, Opstar JN 7228, acryloyloxypropyltrimethoxysilane-crosslinked, low-n layers; imaging devices and their **antireflective** films imparting reflection light with clear color tone)

IT Polysiloxanes, preparation  
 (di-Me, fluorine-containing, Opstar JN 7228, acryloyloxypropyltrimethoxysilane-crosslinked, low-n layers; imaging devices and their **antireflective** films)

imparting reflection light with clear color tone)

IT **Antireflective** films  
(imaging devices and their **antireflective** films  
imparting reflection light with clear color tone)

IT Optical imaging devices  
(imaging devices and their **antireflective** films  
imparting reflection light with clear tone)

IT 4369-14-6, 3-Acryloyloxypropyltrimethoxysilane  
(**crosslinking** agents, low-n layers; imaging devices  
and their **antireflective** films imparting reflection  
light with clear color tone)

IT 7631-86-9, MEK-ST, uses  
(high-n layers; imaging devices and their  
**antireflective** films imparting reflection light with  
clear color tone)

IT 682354-08-1P, Allyl methacrylate-DMAEA-methacrylic acid-Kayarad  
DPHA copolymer  
(intermol. crosslinked, reflective layers; imaging devices and  
their **antireflective** films imparting reflection light  
with clear color tone)

IT 13463-67-7, TTO 55B, uses  
(medium- and high-n layers; imaging devices and their  
**antireflective** films imparting reflection light with  
clear color tone)

IT 9012-09-3, TAC TD 80U  
(substrates; imaging devices and their **antireflective**  
films imparting reflection light with clear color tone)

L35 ANSWER 17 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:330785 HCAPLUS

DOCUMENT NUMBER: 140:347680

TITLE: **Antireflective** antiglare films,  
polarizing films sandwiched in between  
antiglare protective films, and liquid crystal  
displays

INVENTOR(S): Moto, Takahiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004125958	A2	20040422	JP 2002-286936	2002 0930

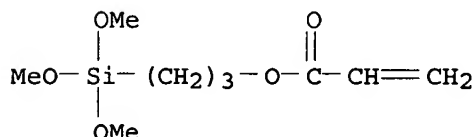
PRIORITY APPLN. INFO.: JP 2002-286936

2002  
0930

AB The film has surface roughness (Ra) 0.02-1.00  $\mu\text{m}$  and Rz/Ra  $\leq 30$  and comprises a transparent substrate,  $\geq 1$  antiglare layers comprising transparent binder matrix containing transparent fine-grain particle dispersions, and a layer having lower refractive index than the underlayer. The title polarizing film is sandwiched in between protective films, either or both

comprising the said antiglare film. Liquid crystal display with its liquid cell laminated to the polarizing film on its optically anisotropic side is also claimed. Displays with clear images can be obtained with wide view angle.

- IT 4369-14-6, KBM 5103  
 (crosslinking agent; antireflective  
 antiglare films for polarizing films in liquid crystal displays)  
 RN 4369-14-6 HCAPLUS  
 CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX  
 NAME)



- IC ICM G02B001-11  
 ICS B32B007-02; G02B005-02; G02B005-30; G02F001-1335  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38, 73  
 ST antireflective antiglare film polarizer LCD; liq crystal  
 display polarizer antiglare protective film  
 IT Polysiloxanes, uses  
 (acrylic; antireflective antiglare films for  
 polarizing films in liquid crystal displays)  
 IT Antireflective films  
 Liquid crystal displays  
 Polarizing films  
 (antireflective antiglare films for polarizing films  
 in liquid crystal displays)  
 IT Fluoropolymers, uses  
 (di-Me siloxane-, JN 7228, crosslinked; antireflective  
 antiglare films for polarizing films in liquid crystal displays)  
 IT Polysiloxanes, uses  
 (di-Me, fluorine-containing, JN 7228, crosslinked;  
 antireflective antiglare films for polarizing films in  
 liquid crystal displays)  
 IT 9012-09-3, TD 80U  
 (antiglare film base; antireflective antiglare films  
 for polarizing films in liquid crystal displays)  
 IT 160716-45-0, KBM 5103 homopolymer 188722-79-4, DPHA-KBM 5103  
 copolymer  
 (antiglare film; antireflective antiglare films for  
 polarizing films in liquid crystal displays)  
 IT 1314-23-4, Zirconia, uses  
 (antiglare films containing; antireflective antiglare  
 films for polarizing films in liquid crystal displays)  
 IT 158721-79-0, KBM 5103-Trimethylolpropane triacrylate copolymer  
 365440-38-6, DeSolute Z 7526 511270-62-5, DeSolute KZ 7114A  
 (antireflective antiglare films for polarizing films  
 in liquid crystal displays)  
 IT 4369-14-6, KBM 5103  
 (crosslinking agent; antireflective  
 antiglare films for polarizing films in liquid crystal displays)  
 IT 7631-86-9, Silica, uses 9011-14-7, Poly(methyl methacrylate)  
 439912-99-9, SX 130H 462109-01-9, SX 500H 521322-93-0, MX 300

521322-95-2, MX 150 847995-61-3, Chemisnow SX 350H  
(fine-grain particle in antiglare film; **antireflective**  
antiglare films for polarizing films in liquid crystal displays)

IT 174079-42-6

(optically anisotropic layer in polarizing film;  
**antireflective** antiglare films for polarizing films in  
liquid crystal displays)

L35 ANSWER 18 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:310366 HCAPLUS

DOCUMENT NUMBER: 140:329348

TITLE: Optical filter laminates having transparent  
adhesive layers with smooth surface, no  
optical strain, and excellent impact  
resistance

INVENTOR(S): Kawaguchi, Toshiyuki; Tahara, Kazutoki;  
Yoshida, Kazuyoshi

PATENT ASSIGNEE(S): Shin-Etsu Polymer Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004117681	A2	20040415	JP 2002-279231	2002 0925
PRIORITY APPLN. INFO.: JP 2002-279231				2002 0925

AB The laminates consist of display elements (including 1st optical layers), transparent adhesive layers with thickness 1-3 mm, consisting of transparent substrates with thickness 0.25-1.3 mm unified with crosslinked organopolysiloxanes, and 2nd optical layers on the side of the substrates, wherein the organopolysiloxanes may have units derived from diorganopolysiloxanes (A) bearing  $\geq 2$  alkenyl groups bonded to Si, resin-type organopolysiloxanes bearing  $\geq 1$  alkenyl groups bonded to Si (B) consisting of  $\text{SiO}_{4/2}$  units and  $\text{R}_3\text{SiO}_{1/2}$  units (R = hydrocarbyl, alkenyl), and organohydrogenpolysiloxanes (C) bearing  $\geq 2$  H bonded to Si.

IT 573936-03-5DP, Dimethylvinylsilyl-terminated dimethyl siloxane SRU-dimethylsilanediol-methylsilanediol-silicic acid dimethylvinylsilyl trimethylsilyl ester copolymer, trimethylsilyl-terminated

(adhesive layer; optical filter laminates having  
**crosslinked** organopolysiloxane adhesive layers with  
smooth surface, no optical strain, and good impact resistance  
for displays)

RN 573936-03-5 HCAPLUS

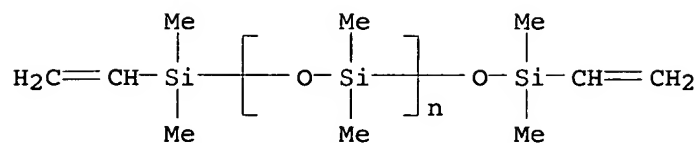
CN Silicic acid, ethenyldimethylsilyl trimethylsilyl ester, polymer with dimethylsilanediol,  $\alpha$ -(ethenyldimethylsilyl)- $\omega$ -[(ethenyldimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 59942-04-0

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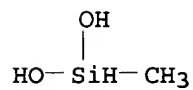
CCI PMS



CM 2

CRN 43641-90-3

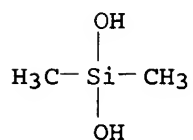
CMF C H6 O2 Si



CM 3

CRN 1066-42-8

CMF C2 H8 O2 Si



CM 4

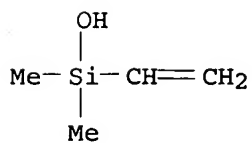
CRN 107712-53-8

CMF C4 H10 O Si . x C3 H10 O Si . x Unspecified

CM 5

CRN 5906-75-2

CMF C4 H10 O Si



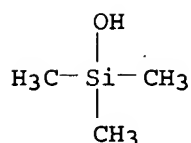
CM 6

CRN 1343-98-2  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 7

CRN 1066-40-6  
CMF C3 H10 O Si



IC ICM G02B001-10  
ICS G02B001-11  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 38, 74  
IT Optical materials  
(**antireflective**; optical filter laminates having crosslinked organopolysiloxane adhesive layers with smooth surface, no optical strain, and good impact resistance for displays)  
IT 573936-03-5DP, Dimethylvinylsilyl-terminated dimethyl siloxane SRU-dimethylsilanediol-methylsilanediol-silicic acid dimethylvinylsilyl trimethylsilyl ester copolymer, trimethylsilyl-terminated  
(adhesive layer; optical filter laminates having **crosslinked** organopolysiloxane adhesive layers with smooth surface, no optical strain, and good impact resistance for displays)

L35 ANSWER 19 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2004:250276 HCAPLUS  
DOCUMENT NUMBER: 140:294890  
TITLE: Antisoiling and antiscratch  
**antireflection** films and display devices having them  
INVENTOR(S): Kato, Eiichi  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004093773	A2	20040325	JP 2002-253388	2002

USHA SHRESTHA EIC 1700 REM 4B28

PRIORITY APPLN. INFO.:

JP 2002-253388

0830

2002

0830

AB The antireflection film has a top coating layer containing graft polymers, which are manufactured from (A) monofunctional monomers having siloxane structures selected from OSiR11R12 and OSiR13R14R15 (R11-15 = aliphatic or aromatic group) and (B) monofunctional macromonomers with  $M_w \leq 20,000$  having in their main chains repeating units CF<sub>2</sub>CFRf0 (Rf0 = F, C1-7-perfluoroalkyl, ORf1; Rf1 = F-containing C1-22-aliphatic group).

IT 675876-59-2P

(crosslinked; antisoiling and antiscratch  
antireflection films for displays)

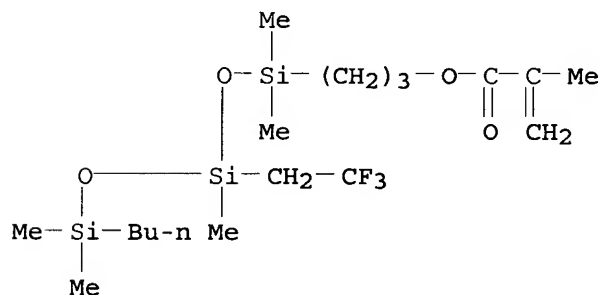
RN 675876-59-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[5-butyl-1,1,3,5,5-pentamethyl-3-(2,2,2-trifluoroethyl)trisiloxanyl]propyl ester, polymer with 1,1,2,3,3,4,4,4-octafluoro-1-butene, oxiranylmethyl 2-propenoate and tetrafluoroethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 667457-08-1

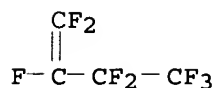
CMF C18 H37 F3 O4 Si3



CM 2

CRN 357-26-6

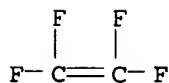
CMF C4 F8



CM 3

CRN 116-14-3

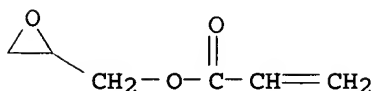
CMF C2 F4



CM 4

CRN 106-90-1

CMF C6 H8 O3



- IC ICM G02B001-11  
ICS B32B027-00; B32B027-30; G09F009-00
- CC 74-13 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST **antireflection** film antisoiling fluoropolymer siloxane graft; antiscratch **antireflection** film macromer fluoropolymer siloxane
- IT Polysiloxanes, reactions  
(acrylic, fluorine-containing, graft; antisoiling and antiscratch **antireflection** films for displays)
- IT Fluoropolymers, reactions  
(acrylic-polysiloxane-, graft; antisoiling and antiscratch **antireflection** films for displays)
- IT Fluoropolymers, uses  
(**antireflection** layer; antisoiling and antiscratch **antireflection** films for displays)
- IT **Antireflective** films  
Optical imaging devices  
Polarizers  
(antisoiling and antiscratch **antireflection** films for displays)
- IT Macromonomers  
(antisoiling and antiscratch **antireflection** films for displays)
- IT Polysiloxanes, preparation  
(epoxy, fluorine-containing, acrylic, graft; antisoiling and antiscratch **antireflection** films for displays)
- IT Fluoropolymers, preparation  
(epoxy-polysiloxane-, acrylic, graft; antisoiling and antiscratch **antireflection** films for displays)
- IT Epoxy resins, preparation  
(polysiloxane-, fluorine-containing, acrylic, graft; antisoiling and antiscratch **antireflection** films for displays)
- IT 9012-09-3, Triacetyl cellulose  
(TAC-TD 80U, substrate film; antisoiling and antiscratch **antireflection** films for displays)
- IT 7631-86-9, Silica, uses 13463-67-7, Titania, uses  
(**antireflection** layer containing; antisoiling and antiscratch **antireflection** films for displays)
- IT 67653-78-5P, DPHA homopolymer 254887-78-0P, DMAEA-DPHA-PM 21 copolymer

(antireflection layer; antisoiling and antiscratch antireflection films for displays)

IT 294172-90-0, JSR JN 7221  
(antireflection layer; antisoiling and antiscratch antireflection films for displays)

IT 667457-05-8P 667457-07-0P 667457-11-6P 675876-58-1P  
675876-61-6P 675876-63-8P 675876-64-9P 675876-65-0P  
675876-66-1P 675876-67-2P 676120-94-8P  
(antisoiling and antiscratch antireflection films for displays)

IT 675876-68-3P 675876-69-4P 675876-70-7P 675876-71-8P  
675876-72-9P 675876-73-0P 675876-74-1P 675876-75-2P  
675876-76-3P 675876-77-4P 676120-96-0P  
(antisoiling and antiscratch antireflection films for displays)

IT 675876-59-2P  
(crosslinked; antisoiling and antiscratch antireflection films for displays)

IT 77-99-6D, Trimethylolpropane, glycidyl ether  
(crosslinking agent; antisoiling and antiscratch antireflection films for displays)

IT 20882-04-6, Butanedioic acid, mono[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester  
(esterification with acrylic graft polymers; antisoiling and antiscratch antireflection films for displays)

IT 667457-02-5DP, methacryloyloxy-terminated 667457-04-7DP, methacryloyloxy-terminated 667458-44-8DP, methacryloyloxy-terminated  
(macromer; antisoiling and antiscratch antireflection films for displays)

L35 ANSWER 20 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:180440 HCAPLUS

DOCUMENT NUMBER: 140:243668

TITLE: Antireflective layer of polysiloxane-grafted fluoropolymers, antireflective film provided with the antireflective layer by solvent casting, and its optical imaging device

INVENTOR(S): Kato, Eiichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.

CODEN: JXXXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004069983	A2	20040304	JP 2002-228813	2002 0806
PRIORITY APPLN. INFO.:			JP 2002-228813	2002 0806

AB The antireflective layer has a low-refractive index layer formed by application and curing of a film-forming composition

containing (i) graft copolymers (GP) prepared by copolymerizing  $\geq 1$  monofunctional monomers (A) bearing  $\geq 1$  groups selected from OSiR<sub>11</sub>R<sub>12</sub> and OSiR<sub>13</sub>R<sub>14</sub>R<sub>15</sub> (R<sub>11</sub>-R<sub>15</sub> = aliphatic or aromatic group) and  $\geq 1$  monofunctional macromonomers (MM) with  $M_w \leq 2.0 \times 10^4$  and involving mer units represented by CF<sub>2</sub>CFR<sub>0f</sub> (CFR<sub>0f</sub> = F, C<sub>1</sub>-7 perfluoroalkyl, ORf<sub>1</sub>; ORf<sub>1</sub> = C<sub>1</sub>-22 F-containing aliphatic group) and (ii) hardeners and/or curing accelerators. The optical imaging devices such as CRT, PDP, and LCD has the antireflective film showing high scratch resistance and antisoiling property.

IT 667457-24-1P 667457-25-2P 667457-26-3P  
667457-27-4P 667457-28-5P 667457-29-6P  
667457-30-9P 667457-31-0P 667457-32-1P  
667457-33-2P

(crosslinked; antireflective film provided  
with antireflective layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)

RN 667457-24-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(nonamethyltetrasiloxanyl)propyl  
ester, polymer with DEX 314, 1,1,1,2,2,3,3-heptafluoro-4-  
[(trifluoroethenyl)oxy]butane, 1,1,2,3,3,3-hexafluoro-1-propene  
and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

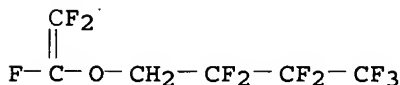
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CRN 658076-22-3  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

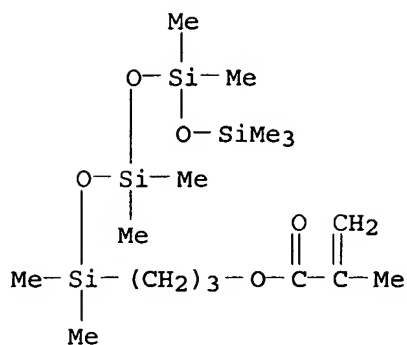
CM 2

CRN 126323-50-0  
CMF C6 H2 F10 O



CM 3

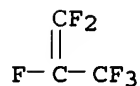
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CMF C16 H38 O5 Si4



CM 4

CRN 116-15-4

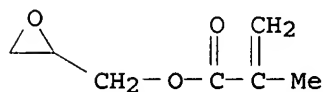
CMF C3 F6



CM 5

CRN 106-91-2

CMF C7 H10 O3



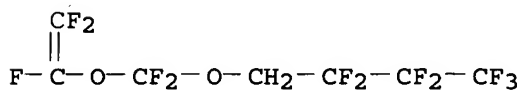
RN 667457-25-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 6-hydroxyhexyl ester, polymer with  
 DEX 314, 4-[difluoro[(trifluoroethenyl)oxy]methoxy]-1,1,1,2,2,3,3-  
 heptafluorobutane, 1,1,2,3,3,4,4,4-octafluoro-1-butene and  
 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 667457-06-9

CMF C7 H2 F12 O2



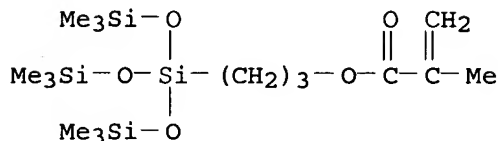
CM 2

CRN 658076-22-3  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

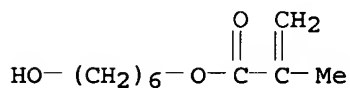
CM 3

CRN 17096-07-0  
 CMF C16 H38 O5 Si4



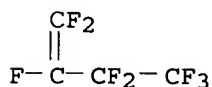
CM 4

CRN 13092-57-4  
 CMF C10 H18 O3



CM 5

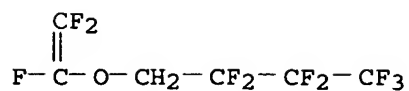
CRN 357-26-6  
 CMF C4 F8



RN 667457-26-3 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 3-(nonamethyltetrasiloxanyl)propyl ester, polymer with 1,1,1,2,2,3,3-heptafluoro-4-[(trifluoroethenyl)oxy]butane, 1,1,2,3,3,3-hexafluoro-1-propene, oxiranylethyl 2-methyl-2-propenoate and 1,1,3,3-tetramethyl-1,3-bis[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]disiloxane (9CI) (CA INDEX NAME)

CM 1

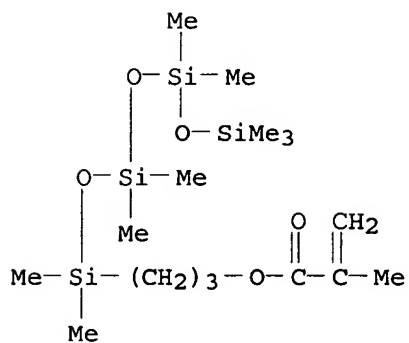
CRN 126323-50-0  
 CMF C6 H2 F10 O



CM 2

CRN 77865-90-8

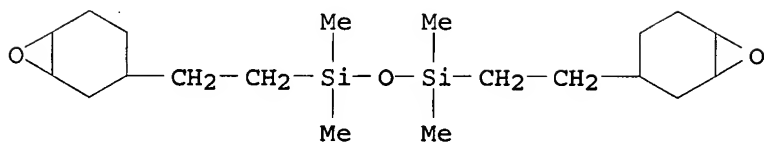
CMF C16 H38 O5 Si4



CM 3

CRN 18724-32-8

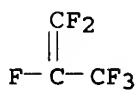
CMF C20 H38 O3 Si2



CM 4

CRN 116-15-4

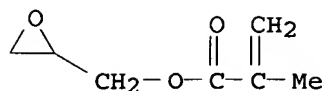
CMF C3 F6



CM 5

CRN 106-91-2

CMF C7 H10 O3



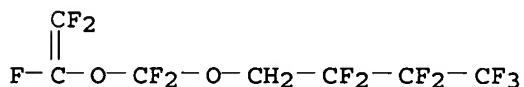
RN 667457-27-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 6-hydroxyhexyl ester, polymer with 4-[difluoro[(trifluoroethenyl)oxy]methoxy]-1,1,1,2,2,3,3-heptafluorobutane, 1,1,2,3,3,4,4,4-octafluoro-1-butene, Takenate DHO and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 667457-06-9

CMF C7 H2 F12 O2



CM 2

CRN 658078-60-5

CMF Unspecified

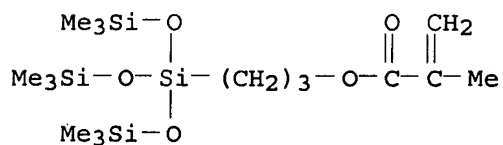
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 17096-07-0

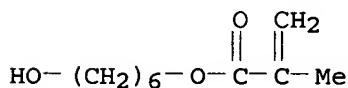
CMF C16 H38 O5 Si4



CM 4

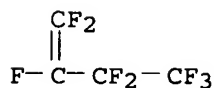
CRN 13092-57-4

CMF C10 H18 O3



CM 5

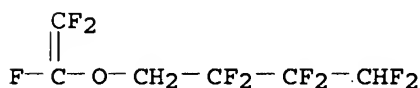
CRN 357-26-6  
CMF C4 F8



RN 667457-28-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with cyclohexyl 2-methyl-2-propenoate, 1,1,2,3,3,3-hexafluoro-1-propene, 1,1,2,2,3,3-hexafluoro-4-[(trifluoroethenyl)oxy]butane, 3-[1,1,3,5,5,5-hexamethyl-3-[(trimethylsilyl)oxy]trisiloxanyl]propyl 2-methyl-2-propenoate and 2-propenyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

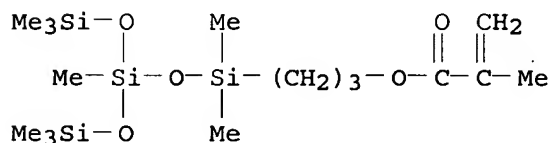
CM 1

CRN 667457-10-5  
CMF C6 H3 F9 O



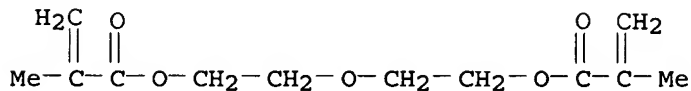
CM 2

CRN 111481-56-2  
CMF C16 H38 O5 Si4



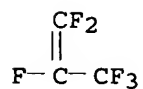
CM 3

CRN 2358-84-1  
CMF C12 H18 O5



CM 4

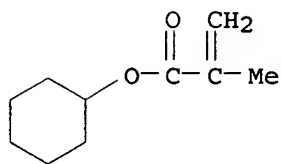
CRN 116-15-4  
CMF C3 F6



CM 5

CRN 101-43-9

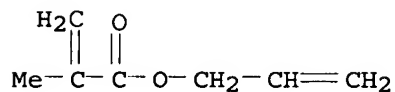
CMF C10 H16 O2



CM 6

CRN 96-05-9

CMF C7 H10 O2



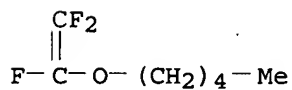
RN 667457-29-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester, polymer with diisocyanatocyclohexane, 1-[3-(4-ethenylphenyl)propyl]-1,1,3,3,5,5,7,7,7-nonamethyltetrasiloxane, 1,1,2,3,3,3-hexafluoro-1-propene and 1-[(trifluoroethenyl)oxy]pentane (9CI) (CA INDEX NAME)

CM 1

CRN 667457-13-8

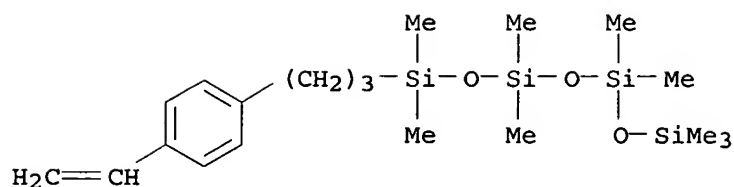
CMF C7 H11 F3 O



CM 2

CRN 667457-12-7

CMF C20 H40 O3 Si4



CM 3

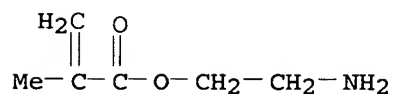
CRN 53823-29-3  
 CMF C8 H10 N2 O2  
 CCI IDS



2 ( D1-NCO )

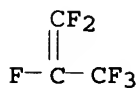
CM 4

CRN 7659-36-1  
 CMF C6 H11 N O2



CM 5

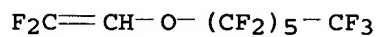
CRN 116-15-4  
 CMF C3 F6



RN 667457-30-9 HCAPLUS  
 CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with 1-[(2,2-difluoroethenyl)oxy]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexane, 1,1,2,3,3,3-hexafluoro-1-propene, 2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

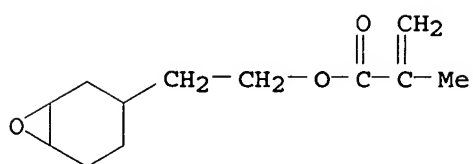
CM 1

CRN 667457-18-3  
 CMF C8 H F15 O



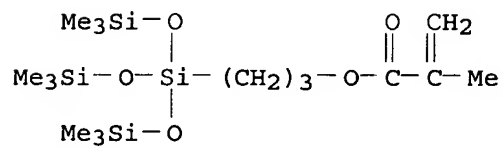
CM 2

CRN 59620-20-1  
 CMF C12 H18 O3



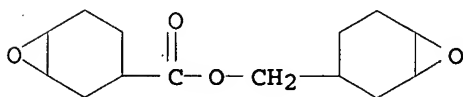
CM 3

CRN 17096-07-0  
 CMF C16 H38 O5 Si4



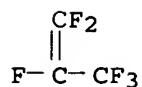
CM 4

CRN 2386-87-0  
 CMF C14 H20 O4



CM 5

CRN 116-15-4  
 CMF C3 F6



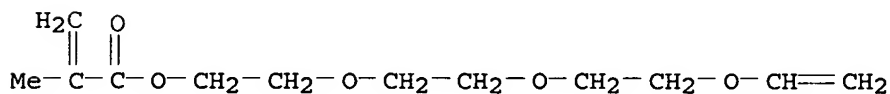
RN 667457-31-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[2-[2-(ethenyloxy)ethoxy]ethoxy]ethyl ester, polymer with 1,4-bis[[2-(ethenyloxy)ethoxy]methyl]cyclohexane, 1-[(2,2-difluoroethenyl)oxy]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexane, 1,1,2,3,3,3-hexafluoro-1-propene and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 667457-20-7

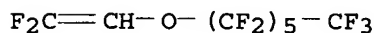
CMF C12 H20 O5



CM 2

CRN 667457-18-3

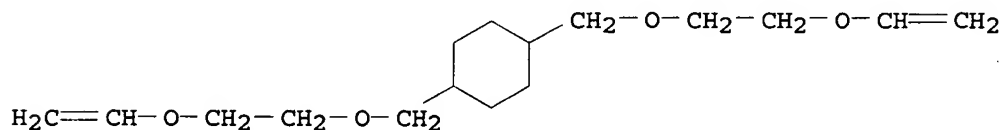
CMF C8 H F15 O



CM 3

CRN 658075-08-2

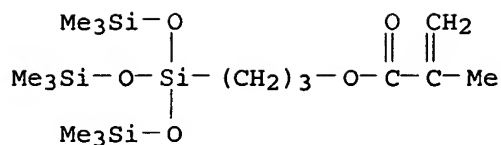
CMF C16 H28 O4



CM 4

CRN 17096-07-0

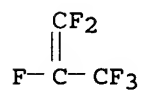
CMF C16 H38 O5 Si4



CM 5

CRN 116-15-4

CMF C3 F6



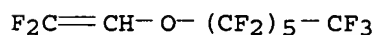
RN 667457-32-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, hexyl ester, polymer with  
 1-[(2,2-difluoroethenyl)oxy]-1,1,2,2,3,3,4,4,5,5,6,6,6-  
 tridecafluorohexane, 1,1,2,3,3,3-hexafluoro-1-propene,  
 7-oxabicyclo[4.1.0]hept-3-ylmethyl 2-methyl-2-propenoate,  
 2-(oxiranylmethoxy)ethyl 2-methyl-2-propenoate and  
 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 667457-18-3

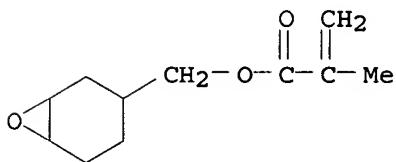
CMF C8 H F15 O



CM 2

CRN 82428-30-6

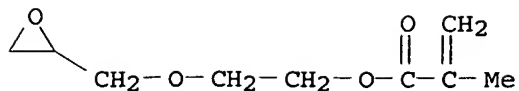
CMF C11 H16 O3



CM 3

CRN 30491-79-3

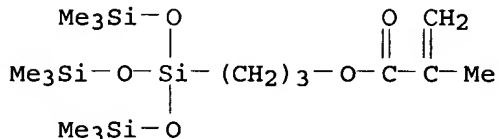
CMF C9 H14 O4



CM 4

CRN 17096-07-0

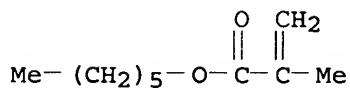
CMF C16 H38 O5 Si4



CM 5

CRN 142-09-6

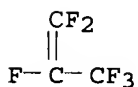
CMF C10 H18 O2



CM 6

CRN 116-15-4

CMF C3 F6



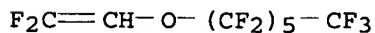
RN 667457-33-2 HCAPLUS

CN Dodecanoic acid, 12-[(2-methyl-1-oxo-2-propenyl)oxy]-, ethenyl ester, polymer with 1-[(2,2-difluoroethenyl)oxy]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexane, 1,2-ethanediyl bis(2-methyl-2-propenoate), ethenyl 2-methyl-2-propenoate, 1,1,2,3,3,3-hexafluoro-1-propene and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 667457-18-3

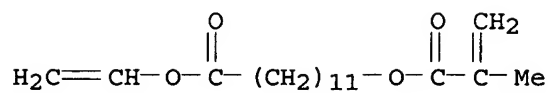
CMF C8 H F15 O



CM 2

CRN 130949-32-5

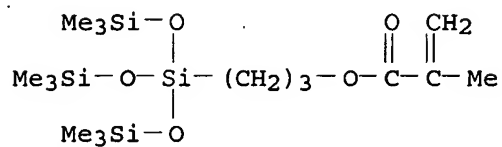
CMF C18 H30 O4



CM 3

CRN 17096-07-0

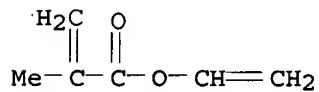
CMF C16 H38 O5 Si4



CM 4

CRN 4245-37-8

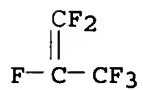
CMF C6 H8 O2



CM 5

CRN 116-15-4

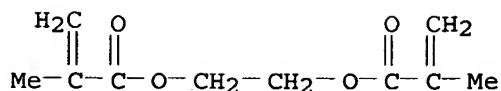
CMF C3 F6



CM 6

CRN 97-90-5

CMF C10 H14 O4



- IC ICM G02B001-11  
ICS B32B007-02; B32B027-00; G02F001-1335
- CC 74-13 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST polysiloxane fluoropolymer graft **antireflective** film  
optical imaging device; liq crystal display **antireflective** film
- IT Polysiloxanes, preparation  
(acrylic, fluorine-containing, graft, crosslinked;  
**antireflective** film provided with  
**antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)
- IT Fluoropolymers, preparation  
(acrylic-polysiloxane-, graft, crosslinked;  
**antireflective** film provided with  
**antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)
- IT **Antireflective** films  
Liquid crystal displays  
Optical imaging devices  
Polarizers  
(**antireflective** film provided with  
**antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)
- IT 9012-09-3, TAC-DU  
(TAC-DU, TAC-TD 80U, substrate film; **antireflective**  
film provided with **antireflective** layer of  
polysiloxane-grafted fluoropolymers by solvent casting for  
displays)
- IT 332363-57-2P, DMAEA-Kayamer PM 21 copolymer  
(TiO<sub>2</sub> dispersion; **antireflective** film provided with  
**antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)
- IT 402829-66-7, SX 200HS  
(antiglare hard coat containing; **antireflective** film  
provided with **antireflective** layer of  
polysiloxane-grafted fluoropolymers by solvent casting for  
displays)
- IT 404900-61-4, DeSolite Z 7042 404901-40-2, DeSolite Z 7041  
(antiglare hard coat; **antireflective** film provided  
with **antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)
- IT 104-15-4, p-Toluenesulfonic acid, uses 947-19-3 5593-70-4  
6175-45-7 10409-07-1 17501-44-9, Zirconium (IV)  
acetylacetonate 71868-10-5, Irgacure 907 82799-44-8, Kayacure  
DETX 100093-00-3 667457-34-3 667457-35-4  
(**antireflective** film provided with  
**antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)
- IT 88583-06-6P  
(**antireflective** film provided with  
**antireflective** layer of polysiloxane-grafted  
fluoropolymers by solvent casting for displays)

- IT 30674-80-7DP, 2-(Methacryloyloxy)ethyl isocyanate, ester with carboxy-terminated fluoropolymer 667457-02-5DP, carboxy-terminated, ester with with 2-(methacryloyloxy)ethyl isocyanate 667457-04-7DP, carboxyphenyl-terminated, ester with glycidyl methacrylate  
(antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)
- IT 667457-05-8P 667457-07-0P 667457-09-2P 667457-11-6P  
667457-14-9P 667457-17-2P 667457-19-4P 667457-21-8P  
667457-22-9P 667457-23-0P  
(antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)
- IT 667458-46-0P  
(antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)
- IT 658078-60-5, Takenate DHO  
(antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)
- IT 667457-24-1P 667457-25-2P 667457-26-3P  
667457-27-4P 667457-28-5P 667457-29-6P  
667457-30-9P 667457-31-0P 667457-32-1P  
667457-33-2P  
(crosslinked; antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)
- IT 254887-33-7P, DPHA-UV 6300B copolymer  
(hard coat; antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)
- IT 77-99-6D, Trimethylolpropane, polyglycidyl ethers 97-90-5, Ethylene glycol dimethacrylate 101-43-9, Cyclohexyl methacrylate 142-09-6 2358-84-1, Diethylene glycol dimethacrylate 2386-87-0 4245-37-8, Vinyl methacrylate 18724-32-8 53823-29-3, Cyclohexyl diisocyanate 82428-30-6 658075-08-2 658076-22-3, DEX 314  
(hardener; antireflective film provided with antireflective layer of polysiloxane-grafted fluoropolymers by solvent casting for displays)

L35 ANSWER 21 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:180421 HCAPLUS

DOCUMENT NUMBER: 140:243667

TITLE: Antireflective layer,  
antireflective film provided with the  
layer by solvent casting, and optical imaging  
device assembled with the same

INVENTOR(S): Obayashi, Tatsuhiko; Hosokawa, Takashi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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USHA SHRESTHA EIC 1700 REM 4B28

JP 2004069866

A2

20040304

JP 2002-226746

2002  
0802

PRIORITY APPLN. INFO.:

JP 2002-226746

2002  
0802

AB The antireflective (AR) layer has a low refractive index layer of a cured copolymer involving polysiloxane moiety in the main chain, mer units derived from F-containing vinyl monomers, and mer units bearing (meth)acryloyl group in the side chain 30-70 mol% per all of the mer units other than the polysiloxane moieties. The AR film with the AR layer is suitable for CRT, PDP, EL displays, and LCD.

IT 667400-89-7P 667401-52-7P 667401-84-5P  
667401-85-6P 667401-86-7P 667401-87-8P  
667401-88-9P

(crosslinked; antireflective film provided with polysiloxane-fluoropolymer-based antireflective layer by solvent casting for displays)

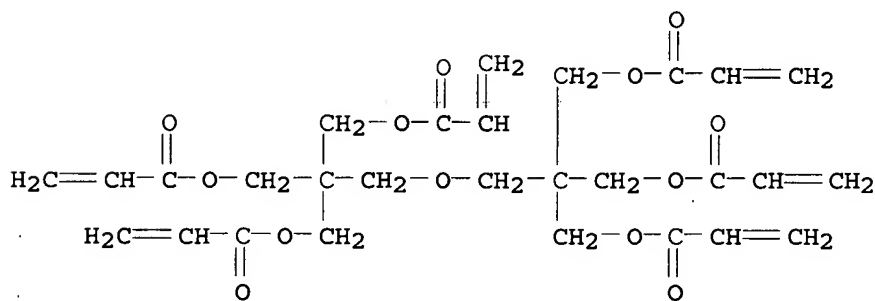
RN 667400-89-7 HCAPLWS

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  $\alpha$ -[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 2-(ethenyloxy)ethanol and 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate (ester), polymer with 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9

CMF C28 H34 O13



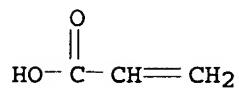
CM 2

CRN 667400-65-9

CMF (C12 H16 N4 O4 . C4 H8 O2 . C3 F6 . (C2 H6 O Si)n C10 H28 N2  
O Si2)x . x C3 H4 O2

CM 3

CRN 79-10-7  
CMF C3 H4 O2

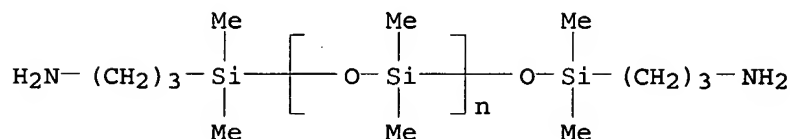


CM 4

CRN 667400-64-8  
CMF (C12 H16 N4 O4 . C4 H8 O2 . C3 F6 . (C2 H6 O Si)n C10  
H28 N2 O Si2)x  
CCI PMS

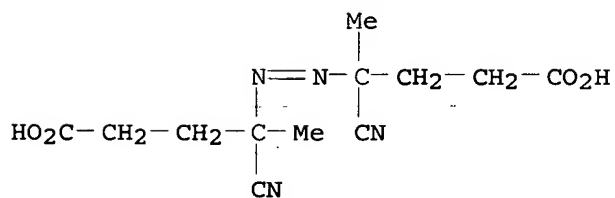
CM 5

CRN 97917-34-5  
CMF (C2 H6 O Si)n C10 H28 N2 O Si2  
CCI PMS



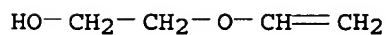
CM 6

CRN 2638-94-0  
CMF C12 H16 N4 O4



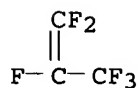
CM 7

CRN 764-48-7  
CMF C4 H8 O2



CM 8

CRN 116-15-4  
CMF C3 F6



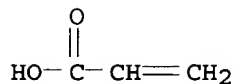
RN 667401-52-7 HCAPLUS  
CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  
 $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
4-(ethenyloxy)-1-butanol and 1,1,2,3,3,3-hexafluoro-1-propene,  
2-propenoate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 667400-68-2  
CMF (C12 H16 N4 O4 . C6 H12 O2 . C3 F6 . (C2 H6 O Si)n C10 H28 N2  
O Si2)x . x C3 H4 O2

CM 2

CRN 79-10-7  
CMF C3 H4 O2

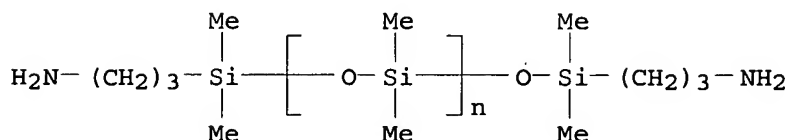


CM 3

CRN 667400-67-1  
CMF (C12 H16 N4 O4 . C6 H12 O2 . C3 F6 . (C2 H6 O Si)n C10  
H28 N2 O Si2)x  
CCI PMS

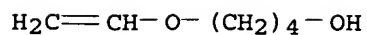
CM 4

CRN 97917-34-5  
CMF (C2 H6 O Si)n C10 H28 N2 O Si2  
CCI PMS



CM 5

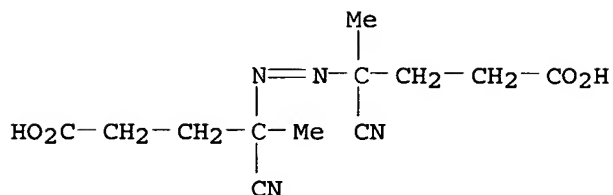
CRN 17832-28-9  
CMF C6 H12 O2



CM 6

CRN 2638-94-0

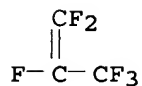
CMF C12 H16 N4 O4



CM 7

CRN 116-15-4

CMF C3 F6



RN 667401-84-5 HCAPLUS

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  
 $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
 2-[2-(ethenyloxy)ethoxy]ethanol and 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

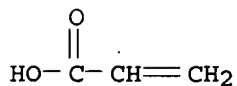
CRN 667400-70-6

CMF (C12 H16 N4 O4 . C6 H12 O3 . C3 F6 . (C2 H6 O Si)n C10 H28 N2  
 O Si2)x . x C3 H4 O2

CM 2

CRN 79-10-7

CMF C3 H4 O2

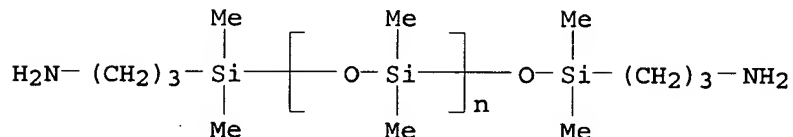


CM 3

CRN 667400-69-3  
 CMF (C12 H16 N4 O4 . C6 H12 O3 . C3 F6 . (C2 H6 O Si)n C10  
 H28 N2 O Si2)x  
 CCI PMS

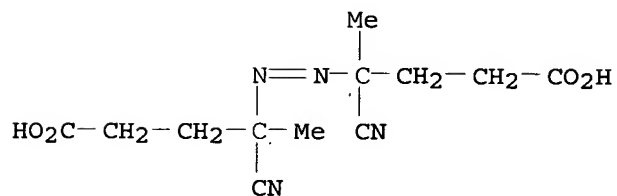
CM 4

CRN 97917-34-5  
 CMF (C2 H6 O Si)n C10 H28 N2 O Si2  
 CCI PMS



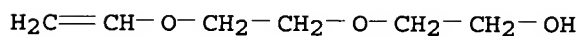
CM 5

CRN 2638-94-0  
 CMF C12 H16 N4 O4



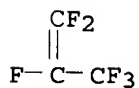
CM 6

CRN 929-37-3  
 CMF C6 H12 O3



CM 7

CRN 116-15-4  
 CMF C3 F6



RN 667401-85-6 HCAPLUS  
 CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  
 $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[(3-

aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
 2-(ethenyloxy)ethyl (3-hydroxypropyl)carbamate and  
 1,1,2,3,3,3-hexafluoro-1-propene, 2-methyl-2-propenoate (ester),  
 homopolymer (9CI) (CA INDEX NAME)

CM 1

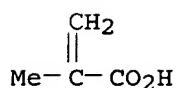
CRN 667400-82-0

CMF (C12 H16 N4 O4 . C8 H15 N O4 . C3 F6 . (C2 H6 O Si)n C10 H28  
 N2 O Si2)x . x C4 H6 O2

CM 2

CRN 79-41-4

CMF C4 H6 O2



CM 3

CRN 667400-81-9

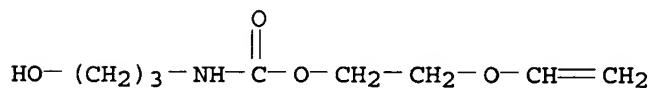
CMF (C12 H16 N4 O4 . C8 H15 N O4 . C3 F6 . (C2 H6 O Si)n C10  
 H28 N2 O Si2)x

CCI PMS

CM 4

CRN 667400-80-8

CMF C8 H15 N O4

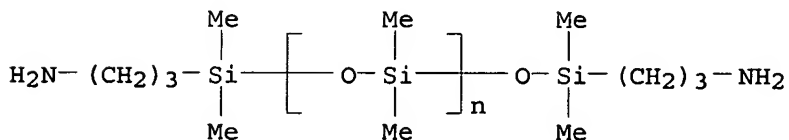


CM 5

CRN 97917-34-5

CMF (C2 H6 O Si)n C10 H28 N2 O Si2

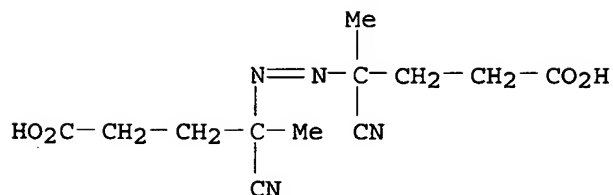
CCI PMS



CM 6

CRN 2638-94-0

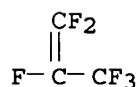
CMF C12 H16 N4 O4



CM 7

CRN 116-15-4

CMF C3 F6



RN 667401-86-7 HCAPLUS

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  
 $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
 3-(ethenyloxy)-1,2-propanediol and 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

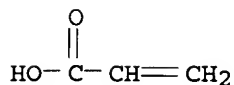
CRN 667400-84-2

CMF (C12 H16 N4 O4 . C5 H10 O3 . C3 F6 . (C2 H6 O Si)<sub>n</sub> C10 H28 N2  
 O Si2)<sub>x</sub> . x C3 H4 O2

CM 2

CRN 79-10-7

CMF C3 H4 O2



CM 3

CRN 667400-83-1

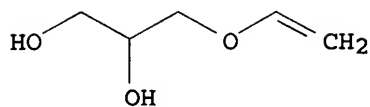
CMF (C12 H16 N4 O4 . C5 H10 O3 . C3 F6 . (C2 H6 O Si)<sub>n</sub> C10  
 H28 N2 O Si2)<sub>x</sub>

CCI PMS

CM 4

CRN 136917-94-7

CMF C5 H10 O3

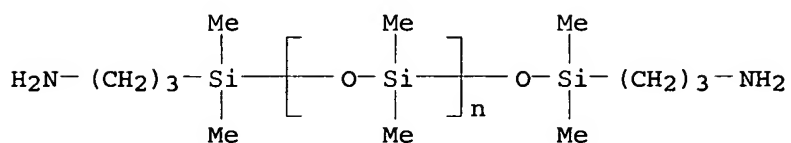


CM 5

CRN 97917-34-5

CMF (C2 H6 O Si)<sub>n</sub> C10 H28 N2 O Si2

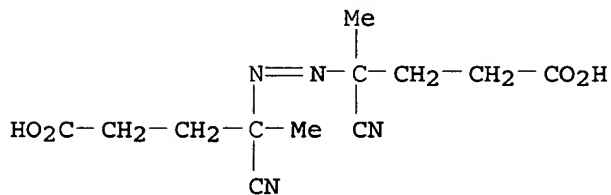
CCI PMS



CM 6

CRN 2638-94-0

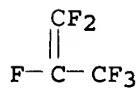
CMF C12 H16 N4 O4



CM 7

CRN 116-15-4

CMF C3 F6



RN 667401-87-8 HCAPLUS

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  
 $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[[3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
 2-(ethenyloxy)ethanol and 1,1,2,3,3,3-hexafluoro-1-propene,  
 [3-[(1-oxo-2-propenyl)oxy]propyl]carbamate (ester), homopolymer  
 (9CI) (CA INDEX NAME)

CM 1

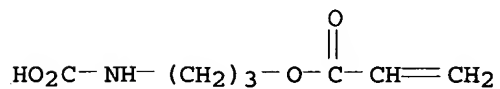
CRN 667400-86-4

CMF (C12 H16 N4 O4 . C4 H8 O2 . C3 F6 . (C2 H6 O Si)n C10 H28 N2  
O Si2)x . x C7 H11 N O4

CM 2

CRN 667400-85-3

CMF C7 H11 N O4



CM 3

CRN 667400-64-8

CMF (C12 H16 N4 O4 . C4 H8 O2 . C3 F6 . (C2 H6 O Si)n C10  
H28 N2 O Si2)x

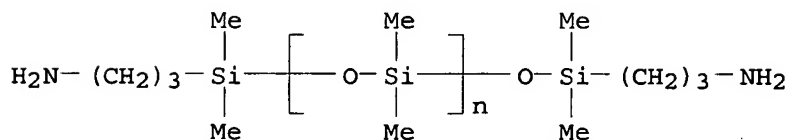
CCI PMS

CM 4

CRN 97917-34-5

CMF (C2 H6 O Si)n C10 H28 N2 O Si2

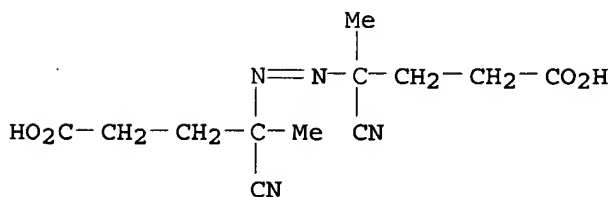
CCI PMS



CM 5

CRN 2638-94-0

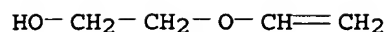
CMF C12 H16 N4 O4



CM 6

CRN 764-48-7

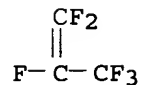
CMF C4 H8 O2



CM 7

CRN 116-15-4

CMF C3 F6



RN 667401-88-9 HCAPLUS

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  
 $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl  
 2-propenoate and 2-hydroxyethyl 2-propenoate, 2-propenoate  
 (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

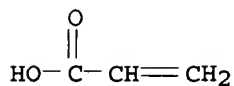
CRN 667400-88-6

CMF (C13 H7 F17 O2 . C12 H16 N4 O4 . C5 H8 O3 . (C2 H6 O Si)n C10  
 H28 N2 O Si2)x . x C3 H4 O2

CM 2

CRN 79-10-7

CMF C3 H4 O2



CM 3

CRN 667400-87-5

CMF (C13 H7 F17 O2 . C12 H16 N4 O4 . C5 H8 O3 . (C2 H6 O  
 Si)n C10 H28 N2 O Si2)x

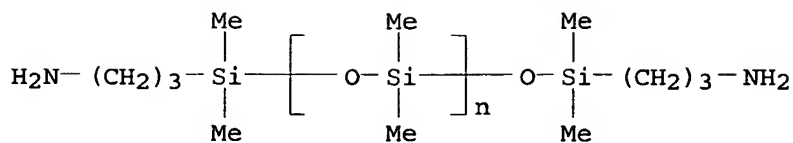
CCI PMS

CM 4

CRN 97917-34-5

CMF (C2 H6 O Si)n C10 H28 N2 O Si2

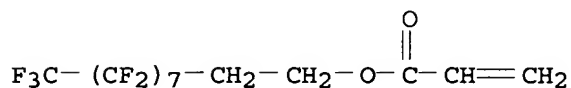
CCI PMS



CM 5

CRN 27905-45-9

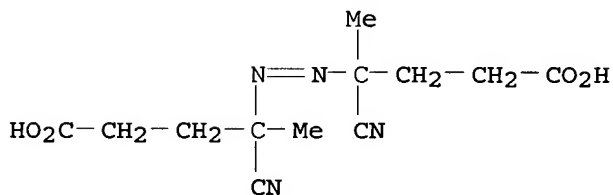
CMF C13 H7 F17 O2



CM 6

CRN 2638-94-0

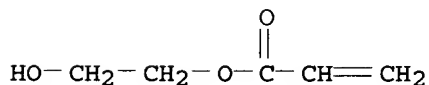
CMF C12 H16 N4 O4



CM 7

CRN 818-61-1

CMF C5 H8 O3



IC ICM G02B001-11

ICS B32B027-00; B32B027-28; G02F001-1335; C09D005-00; C09D153-00

CC 74-13 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 73

ST solvent casting antireflective layer fluoropolymer  
 polysiloxane; optical imaging device antireflective film  
 fluoropolymer polysiloxane; liq crystal display  
 antireflective film fluoropolymer polysiloxane

IT Antireflective films

Optical imaging devices

(antireflective film provided with

polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT Polysiloxanes, preparation  
(fluorine-containing, acrylic; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT Fluoropolymers, preparation  
(polysiloxane-, acrylic; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 332363-57-2P, DMAEA-Kayamer PM 21 copolymer  
(TiO<sub>2</sub> fine dispersion, for hard coat; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 67653-78-5P, DPHA homopolymer  
(**antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 667400-65-9P 667400-66-0P 667400-68-2P 667400-70-6P  
667400-82-0P 667400-84-2P 667400-86-4P 667400-88-6P  
(**antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 667400-89-7P 667401-52-7P 667401-84-5P  
667401-85-6P 667401-86-7P 667401-87-8P  
667401-88-9P  
(**crosslinked**; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 254887-33-7P, DPHA-UV 6300B copolymer  
(hard coat; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 29570-58-9, DPHA  
(hardener; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

IT 9012-09-3, Fuji TAC-TD 80U  
(substrate film; **antireflective** film provided with polysiloxane-fluoropolymer-based **antireflective** layer by solvent casting for displays)

L35 ANSWER 22 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:179851 HCAPLUS  
DOCUMENT NUMBER: 140:218942  
TITLE: Transparent bonding part, transparent laminate, and its manufacture  
INVENTOR(S): Kawaguchi, Toshiyuki; Takahashi, Masayuki  
PATENT ASSIGNEE(S): Shin-Etsu Polymer Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004066556	A2	20040304	JP 2002-226645	

2002  
0802

PRIORITY APPLN. INFO.:

JP 2002-226645

2002  
0802

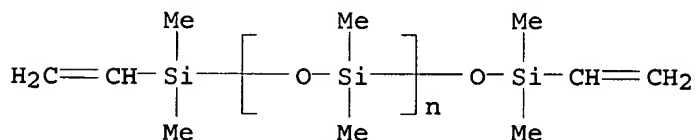
AB The part for bonding an optical function layer-containing transparent substrate with a rigid transparent substrate, has a transparent plate body made of a 1-5 mm-thick crosslinked polyorganosiloxane plate having JIS K6301 rubber hardness  $\leq 40^\circ$  and JIS K 2220 penetration  $\leq 20$  when the rubber hardness is  $\leq 0^\circ$ . The laminate successively has an optical function layer-containing transparent substrate, the above part, and a release film. The laminate is manufactured by (a) deaerating and mixing raw materials for crosslinked polyorganosiloxane, (b) inserting the raw materials into a space between parallel-run 2 long films (at least one film is a release film), and (c) passing the raw material-sandwiched films through hot plates for crosslinking. Thus, a mixture containing vinyl dimethylsiloxyl-terminated di-Me polysiloxane, vinyl Me polysiloxane, trimethylsiloxyl-terminated Me H siloxane-dimethylsiloxane copolymer, and a catalyst was cast into a space between (1) a laminate of Cytop (acrylic film with F-containing antireflective layer) and a urethane film and (2) an X 70-201 (silicone release agent)-coated poly(ethylene terephthalate) film and crosslinked to give a transparent plate, which was released from the release film and bonded on a glass plate to give a laminate showing no optical strain.

IT 59942-04-0DP, Dimethylsiloxane, vinyl-terminated, reaction products with vinyl Me siloxane and Me H siloxane-dimethylsiloxane copolymer 156118-35-3DP, Dimethylsilanediol-methylsilanediol copolymer, trimethylsilyl-terminated, reaction products with vinyl-terminated dimethylsiloxane and vinyl Me polysiloxane

(rubber; transparent crosslinked polysiloxane part used in laminate with release film for bonding optical material with rigid material)

RN 59942-04-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -(ethenyldimethylsilyl)- $\omega$ -[(ethenyldimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



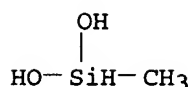
RN 156118-35-3 HCAPLUS

CN Silanediol, dimethyl-, polymer with methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 43641-90-3

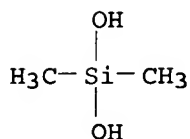
CMF C H6 O2 Si



CM 2

CRN 1066-42-8

CMF C2 H8 O2 Si



- IC ICM B32B027-00  
ICS B32B007-06; B32B007-12; B32B031-06; G02B001-10; G02B001-11
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 39, 73, 74
- IT Acrylic polymers, uses  
(Cytop, film, **antireflective** layer on; transparent crosslinked polysiloxane part used in laminate with release film for bonding optical material with rigid material)
- IT **Antireflective** films  
Optical films  
Release films  
Transparent materials  
(transparent crosslinked polysiloxane part used in laminate with release film for bonding optical material with rigid material)
- IT 59942-04-0DP, Dimethylsiloxane, vinyl-terminated, reaction products with vinyl Me siloxane and Me H siloxane-dimethylsiloxane copolymer 156118-35-3DP, Dimethylsilanediol-methylsilanediol copolymer, trimethylsilyl-terminated, reaction products with vinyl-terminated dimethylsiloxane and vinyl Me polysiloxane  
(rubber; transparent **crosslinked** polysiloxane part used in laminate with release film for bonding optical material with rigid material)

L35 ANSWER 23 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:796764 HCAPLUS

DOCUMENT NUMBER: 139:292894

TITLE: Fluorinated olefin polymers, curable resin compositions and **antireflective** films

INVENTOR(S): Sugiyama, Naoki; Shimomura, Hiroomi; Nishikawa, Akira; Yamamura, Tetsuya; Suzuki, Katsumi; Eriyama, Yuichi

PATENT ASSIGNEE(S): JSR Corporation, Japan

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003082936	A1	20031009	WO 2003-JP3678	2003 0326
W: CN, KR				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
JP 2004307524	A2	20041104	JP 2003-74767	2003 0319
EP 1491562	A1	20041229	EP 2003-712962	2003 0326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			JP 2002-97907	A 2002 0329
			JP 2002-294727	A 2002 1008
			JP 2003-44461	A 2003 0221
			WO 2003-JP3678	W 2003 0326

- AB Fluorinated olefin polymers contain 10-50 mol% hydroxylated monomer units and have polysiloxane segments in the main chain. Curable resin compns. containing these polymers can be used to produce **antireflective** films useful for display devices such as LCD. Cured articles obtained from the curable resin compns. show excellent dust removability by wiping. Thus, reaction of hexafluoropropylene 118.3, perfluoro(Pr vinyl ether) 52.7, 4-hydroxybutyl vinyl ether 30.1, VPS 1001 (azo group-containing polysiloxane) 3.0, Adeka Reasoap NE 10 (reactive surfactant) 19.0, and Et vinyl ether 48.9 parts at 60° for 20 h gave a siloxane segment-containing polymer having F content 49.1% and number-average mol. weight 42,000.
- IT 305819-87-8P, Adeka Reasoap NE 30-dimethylsilanediol-Ethyl vinyl ether-hexafluoropropylene-2-hydroxyethyl vinyl ether-perfluoro(Propyl vinyl ether) block graft copolymer 608537-22-0P, Adeka Reasoap NE 10-dimethylsilanediol-Ethyl vinyl ether-hexafluoropropylene-4-hydroxybutyl vinyl ether-perfluoro(Propyl vinyl ether) block graft copolymer 608537-23-1P, Adeka Reasoap NE 30-dimethylsilanediol-Ethyl vinyl ether-hexafluoropropylene-4-hydroxybutyl vinyl ether-2-hydroxyethyl vinyl ether-perfluoro(Propyl vinyl ether) block graft copolymer (assumed and actual monomers; fluoropolymer-polysiloxane curable resin compns. and **antireflective** films)

RN 305819-87-8 HCAPLUS  
 CN Silanediol, dimethyl-, polymer with 2-(ethenyloxy)ethanol, ethoxyethene, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane, 1,1,2,3,3,3-hexafluoro-1-propene and  $\alpha$ -[1-[(nonylphenoxy)methyl]-2-(2-propenyloxy)ethyl]- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), block, graft (9CI) (CA INDEX NAME)

CM 1

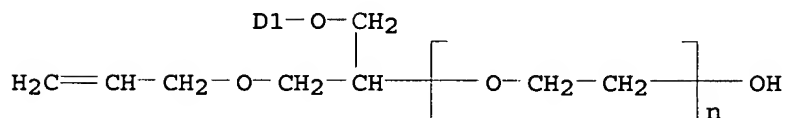
CRN 111144-60-6

CMF (C2 H4 O)<sub>n</sub> C21 H34 O3

CCI IDS, PMS



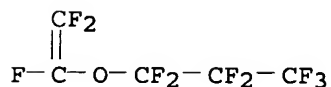
D1- (CH<sub>2</sub>)<sub>8</sub>-Me



CM 2

CRN 1623-05-8

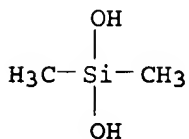
CMF C5 F10 O



CM 3

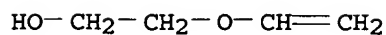
CRN 1066-42-8

CMF C2 H8 O2 Si



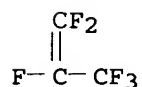
CM 4

CRN 764-48-7  
CMF C4 H8 O2



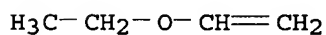
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CRN 116-15-4  
CMF C3 F6



CM 6

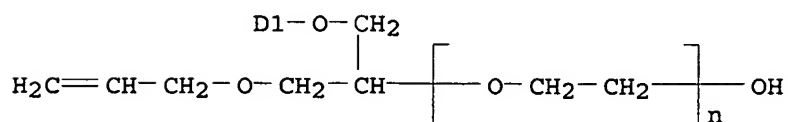
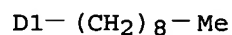
CRN 109-92-2  
CMF C4 H8 O



RN 608537-22-0 HCAPLUS  
CN Silanediol, dimethyl-, polymer with 4-(ethenyloxy)-1-butanol, ethoxyethene, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane, 1,1,2,3,3,3-hexafluoro-1-propene and  $\alpha$ -[1-[(nonylphenoxy)methyl]-2-(2-propenyloxy)ethyl]- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), block, graft (9CI) (CA INDEX NAME)

CM 1

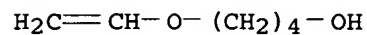
CRN 111144-60-6  
CMF (C2 H4 O)<sub>n</sub> C21 H34 O3  
CCI IDS, PMS



CM 2

CRN 17832-28-9

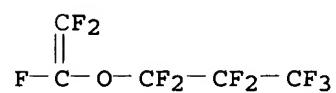
CMF C6 H12 O2



CM 3

CRN 1623-05-8

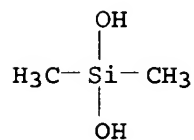
CMF C5 F10 O



CM 4

CRN 1066-42-8

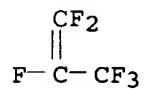
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CM 5

CRN 116-15-4

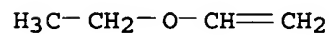
CMF C3 F6



CM 6

CRN 109-92-2

CMF C4 H8 O



RN 608537-23-1 HCAPLUS

CN Silanediol, dimethyl-, polymer with 4-(ethenyloxy)-1-butanol,

2- (ethenyloxy)ethanol, ethoxyethene, 1,1,1,2,2,3,3-heptafluoro-3-  
 [(trifluoroethenyl)oxy]propane, 1,1,2,3,3,3-hexafluoro-1-propene  
 and  $\alpha$ -[1-[(nonylphenoxy)methyl]-2-(2-propenyloxy)ethyl]-  
 $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), block, graft (9CI) (CA  
 INDEX NAME)

CM 1

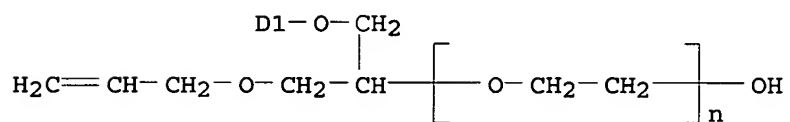
CRN 111144-60-6

CMF (C2 H4 O)<sub>n</sub> C21 H34 O3

CCI IDS, PMS



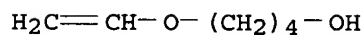
D1- (CH<sub>2</sub>)<sub>8</sub>-Me



CM 2

CRN 17832-28-9

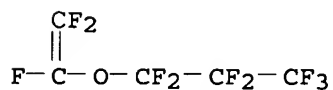
CMF C6 H12 O2



CM 3

CRN 1623-05-8

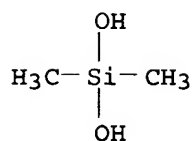
CMF C5 F10 O



CM 4

CRN 1066-42-8

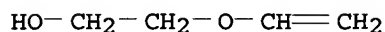
CMF C2 H8 O2 Si



CM 5

CRN 764-48-7

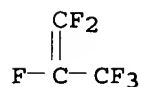
CMF C4 H8 O2



CM 6

CRN 116-15-4

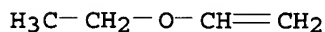
CMF C3 F6



CM 7

CRN 109-92-2

CMF C4 H8 O



IC ICM C08F214-18

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 74

ST fluorinated polyolefin polysiloxane **antireflection** film  
dust removability

IT Aminoplasts

(Cymel 300, Cymel 303; fluoropolymer-polysiloxane curable resin  
compns. and **antireflective** films)IT **Antireflective** films(fluoropolymer-polysiloxane curable resin compns. and  
**antireflective** films)

IT Polysiloxanes, preparation

(polyoxyalkylene-, fluorine-containing, block graft;  
fluoropolymer-polysiloxane curable resin compns. and  
**antireflective** films)

IT Fluoropolymers, preparation

(polyoxyalkylene-siloxane-, block graft; fluoropolymer-  
polysiloxane curable resin compns. and **antireflective**  
films)

IT Polyoxyalkylenes, preparation

(siloxane-, fluorine-containing, block graft; fluoropolymer-polysiloxane curable resin compns. and **antireflective** films)

IT 9003-08-1, Melamine resin  
(Cymel 300, Cymel 303; fluoropolymer-polysiloxane curable resin compns. and **antireflective** films)

IT 305819-87-8P, Adeka Reasoap NE 30-dimethylsilanediol-Ethyl vinyl ether-hexafluoropropylene-2-hydroxyethyl vinyl ether-perfluoro(Propyl vinyl ether) block graft copolymer 608537-22-0P, Adeka Reasoap NE 10-dimethylsilanediol-Ethyl vinyl ether-hexafluoropropylene-4-hydroxybutyl vinyl ether-perfluoro(Propyl vinyl ether) block graft copolymer 608537-23-1P, Adeka Reasoap NE 30-dimethylsilanediol-Ethyl vinyl ether-hexafluoropropylene-4-hydroxybutyl vinyl ether-2-hydroxyethyl vinyl ether-perfluoro(Propyl vinyl ether) block graft copolymer (assumed and actual monomers; fluoropolymer-polysiloxane curable resin compns. and **antireflective** films)

IT 7631-86-9, Colloidal silica, uses  
(colloidal; fluoropolymer-polysiloxane curable resin compns. and **antireflective** films)

IT 609779-00-2  
(fluoropolymer-polysiloxane curable resin compns. and **antireflective** films)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 24 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:873711 HCAPLUS

DOCUMENT NUMBER: 137:371070

TITLE: **Antireflective** laminated plastics and their protective films for imaging devices

INVENTOR(S): Maeda, Kiyoshige; Ito, Kiyohiko

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan; Toyo Metallizing Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002331608	A2	20021119	JP 2001-137363	2001 0508
PRIORITY APPLN. INFO.: JP 2001-137363				2001 0508

AB The laminated plastics comprise substrate layers laminated with hardcoat layers containing polyfunctional (meth)acrylates and polyoxypropylene- and polyoxyethylene-containing silicone surfactants and **antireflective** layers on  $\geq 1$  side. Thus, a PET film (Lumirror) was coated with a composition containing dipentaerythritol hexaacrylate, polyester acrylate,

2-hydroxypropyl acrylate, and polyoxypropylene- and polyoxyethylene-grafted dimethylpolysiloxane surfactant, irradiated with UV, vapor deposited with ITO, SiO<sub>2</sub>, ITO, and MgF<sub>2</sub>, and chemical vapor-deposited with perfluorotrimethoxysilane to give a laminate with improved adhesion, surface smoothness, abrasion resistance, and reflectance (550 nm) 0.6%.

IT 156549-36-9, Dimethylsilanediol-methyloxirane-methylsilanediol-oxirane graft copolymer  
(surfactant; **antireflective** laminated plastics for protective films of imaging devices)

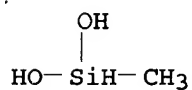
RN 156549-36-9 HCAPLUS

CN Silanediol, dimethyl-, polymer with methyloxirane, methylsilanediol and oxirane, graft (9CI) (CA INDEX NAME)

CM 1

CRN 43641-90-3

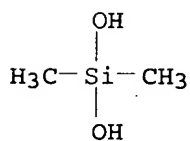
CMF C H6 O2 Si



CM 2

CRN 1066-42-8

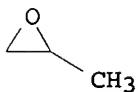
CMF C2 H8 O2 Si



CM 3

CRN 75-56-9

CMF C3 H6 O



CM 4

CRN 75-21-8

CMF C2 H4 O



IC ICM B32B009-00  
ICS B32B027-30; C09D004-02; C09D157-00; C09D183-10; H04N005-72

CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 73, 74

ST **antireflective** film laminate protective imaging device;  
PET laminate pentaerythritol acrylate polyester hydroxypropyl  
polymer; polyoxypropylene polyoxyethylene methylsiloxane  
surfactant hardcoat; ITO silica magnesium fluoride  
**antireflective** film

IT Films  
(abrasion-resistant; **antireflective** laminated  
plastics for protective films of imaging devices)

IT Polyesters, uses  
(acrylic; **antireflective** laminated plastics for  
protective films of imaging devices)

IT Laminated plastic films  
Liquid crystal displays  
Optical imaging devices  
Plasma display panels  
Surfactants  
Television tubes  
(**antireflective** laminated plastics for protective  
films of imaging devices)

IT Oxides (inorganic), uses  
(**antireflective** layers; **antireflective**  
laminated plastics for protective films of imaging devices)

IT Abrasion-resistant materials  
(films; **antireflective** laminated plastics for  
protective films of imaging devices)

IT **Antireflective** films  
(multilayer; **antireflective** laminated plastics for  
protective films of imaging devices)

IT Acrylic polymers, uses  
(polyester-; **antireflective** laminated plastics for  
protective films of imaging devices)

IT Polysiloxanes, uses  
(polyoxyalkylene-, graft, surfactant; **antireflective**  
laminated plastics for protective films of imaging devices)

IT Polyoxyalkylenes, uses  
(polysiloxane-, graft, surfactant; **antireflective**  
laminated plastics for protective films of imaging devices)

IT Adhesives  
(pressure-sensitive; **antireflective** laminated  
plastics for protective films of imaging devices)

IT Polyesters, uses  
(substrate film; **antireflective** laminated plastics  
for protective films of imaging devices)

IT Acrylic polymers, uses  
Polyesters, uses  
(substrates; **antireflective** laminated plastics for  
protective films of imaging devices)

IT 7631-86-9, Silica, uses 7783-40-6, Magnesium difluoride  
50926-11-9, ITO  
(**antireflective** layer; **antireflective**  
laminated plastics for protective films of imaging devices)

IT 999-61-1DP, 2-Hydroxypropyl acrylate, polymer with polyester acrylate and dipentaerythritol hexaacrylate 29570-58-9DP, Dipentaerythritol hexaacrylate, polymer with polyester acrylate and 2-hydroxypropyl acrylate 475196-20-4P, Dipentaerythritol hexaacrylate-2-hydroxypropyl acrylate-Macromonomer AN 6S copolymer (hardcoat layer; **antireflective** laminated plastics for protective films of imaging devices)

IT 197394-01-7, AGR 100 (pressure-sensitive adhesive; **antireflective** laminated plastics for protective films of imaging devices)

IT 25038-59-9, Lumirror, uses (substrate film; **antireflective** laminated plastics for protective films of imaging devices)

IT 156549-36-9, Dimethylsilanediol-methyloxirane-methylsilanediol-oxirane graft copolymer (surfactant; **antireflective** laminated plastics for protective films of imaging devices)

L35 ANSWER 25 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:814209 HCAPLUS

DOCUMENT NUMBER: 137:326098

TITLE: Photoreactive and photocurable compositions containing hydrolyzable silicone compounds

INVENTOR(S): Takahashi, Katsunori; Fukui, Hiroji; Kawabata, Kazuhiro; Kuroda, Takeo; Ichitani, Motokuni; Nakatani, Yasuhiro

PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan

SOURCE: PCT Int. Appl., 104 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083764	A1	20021024	WO 2002-JP3520	2002 0409
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2003213001	A2	20030730	JP 2002-102854	2002 0404
CA 2443406	AA	20021024	CA 2002-2443406	2002 0409
EP 1391476	A1	20040225	EP 2002-714550	2002 0409

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 TW 591058 B 20040611 TW 2002-91107029

2002  
 0409

CN 1524104 A 20040825 CN 2002-807951

2002  
 0409

US 2004202956 A1 20041014 US 2004-474376

2004  
 0310

PRIORITY APPLN. INFO.:

JP 2001-110138 A

2001  
 0409

JP 2001-347708 A

2001  
 1113

JP 2001-357853 A

2001  
 1122

JP 2002-62421 A

2002  
 0307

WO 2002-JP3520 W

2002  
 0409

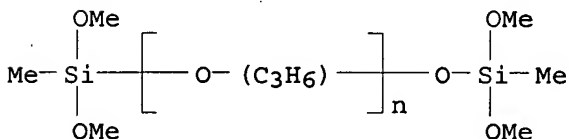
AB The compns. are useful for pattern formation, elec. conductive materials, elec. insulating materials, **antireflective** membranes, photoresists, color filters, adhesives, coatings, seals, gas barriers, etc., and contain a hydrolyzable metal compound (A), e.g., alkylalkoxysilane derivs., and a compound (B) capable of accelerating hydrolytic polycondensation and crosslinking of A in the presence of oxygen and under light irradiation. Thus, mixing 100 parts Kaneka MS-S 303 (methyldimethoxysilyl-terminated polypropylene glycol) with 0.5 parts maleic anhydride, and mild-heating gave a title composition, which was exposed under high pressure Hg lamp to give a test sample.

IT 77396-40-8, Kaneka MS-S 303

(hydrolytically **crosslinked**; photoreactive and photocurable compns. containing hydrolyzable silicone compds.)

RN 77396-40-8 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -(dimethoxymethylsilyl)- $\omega$ -[(dimethoxymethylsilyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM C08G077-00

ICS C08G079-00; C08L087-00; C08L101-10; C09D187-00; C09D201-10;  
 C09J187-00; C09J201-10; C08J005-18; C09K003-10; G02B001-10;

G02B003-00; G02B005-20; G02B006-13; G03F007-075; H01B001-12;  
H01B003-46; H01L051-00; H05B033-12; H05B033-14

CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 42, 74, 76

IT **Antireflective** films  
Conducting polymers  
Electric insulators  
Light-sensitive materials  
Optical filters  
Photoresists  
(photoreactive and photocurable compns. containing hydrolyzable silane compds.)

IT 77396-40-8, Kaneka MS-S 303  
(hydrolytically **crosslinked**; photoreactive and photocurable compns. containing hydrolyzable silicone compds.)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L35 ANSWER 26 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:433296 HCAPLUS

DOCUMENT NUMBER: 137:317786

TITLE: Highly crosslinked polysilane as **antireflective** coating for deep-ultraviolet lithography to improve durability during SiO<sub>2</sub> etching

AUTHOR(S): Sato, Yasuhiko; Shiobara, Eishi; Onishi, Yasunobu; Yoshikawa, Sawako; Nakano, Yoshihiko; Hayase, Shuzi; Hamada, Yoshitaka

CORPORATE SOURCE: Toshiba Corporation, Process and Manufacturing Engineering Center, Shinsugita-cho, Isogo-ku, Yokohama, 235-8522, Japan

SOURCE: Journal of Vacuum Science & Technology, B: Microelectronics and Nanometer Structures (2002), 20(3), 909-913  
CODEN: JVTBD9; ISSN: 0734-211X

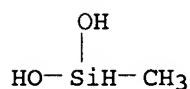
PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

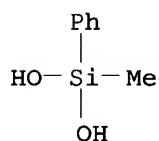
LANGUAGE: English

AB Highly crosslinked polysilanes were recently investigated in an attempt to improve drawbacks of bottom **antireflective** coatings (BARCs) composed of loosely crosslinked polysilanes that are used for deep-UV lithog. A highly crosslinked structure was prepared by thermally crosslinking poly(phenylmethylsilane-methylhydrosilane-methylsilyne) with m-diethynylb-benzene during baking after coating. Resist profiles are achieved without producing a foot or leaving residue at the bottom. The refractive indexes at the KrF excimer laser (248 nm) are  $n = 1.93$  and  $k = 0.32$ . The reflection is independent regardless of variation in the thickness of the crosslinked polysilanes improve the melting of loosely crosslinked polysilanes during BARC etching. They also improve surface roughness of loosely crosslinked polysilanes after (-SiO<sub>2</sub>) etching. The etch selectivity of the highly crosslinked polysilane BARC/resist during BARC etching is 2.5 times greater than that of organic BARC/resist (approx. 1). The etch rate of the highly crosslinked polysilane during substrate etching is 2.5 times greater than that of the resist. Highly crosslinked polysilanes can not only be etched with high selectivity but can also be superior etch mask for substrate etching.

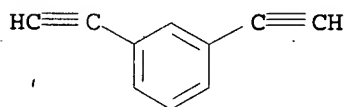
IT 471283-14-4  
 (lithog. performance of polysilane highly crosslinked  
 with diethynylbenzene as bottom antireflective  
 coating for deep-UV lithog.)  
 RN 471283-14-4 HCAPLUS  
 CN Silanediol, methylphenyl-, polymer with 1,3-diethynylbenzene and  
 methylsilanediol (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 43641-90-3  
 CMF C H6 O2 Si



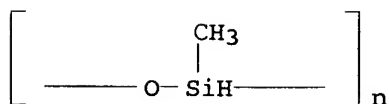
CM 2  
 CRN 3959-13-5  
 CMF C7 H10 O2 Si



CM 3  
 CRN 1785-61-1  
 CMF C10 H6



IT 9004-73-3, Poly[oxy(methylsilylene)] 49718-23-2  
 156894-03-0 471283-13-3  
 (partially crosslinked; properties of partially  
 crosslinked polysilanes and polysilanes highly  
 crosslinked with diethynylbenzene as bottom  
 antireflective coating for deep-UV lithog.)  
 RN 9004-73-3 HCAPLUS  
 CN Poly[oxy(methylsilylene)] (8CI, 9CI) (CA INDEX NAME)



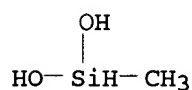
RN 49718-23-2 HCAPLUS

CN Silanediol, methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 43641-90-3

CMF C H6 O2 Si



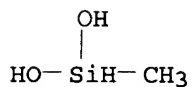
RN 156894-03-0 HCAPLUS

CN Silanediol, methylphenyl-, polymer with methylsilanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 43641-90-3

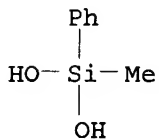
CMF C H6 O2 Si



CM 2

CRN 3959-13-5

CMF C7 H10 O2 Si



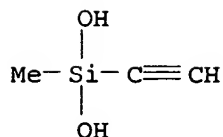
RN 471283-13-3 HCAPLUS

CN Silanediol, diphenyl-, polymer with ethynylmethylsilanediol and  
methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 471283-12-2

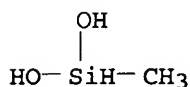
CMF C3 H6 O2 Si



CM 2

CRN 43641-90-3

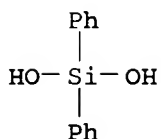
CMF C H6 O2 Si



CM 3

CRN 947-42-2

CMF C12 H12 O2 Si



- CC 74-5 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)
- ST crosslinked polysilane **antireflective** coating deep UV  
lithog; photolithog deep UV crosslinked polysilane  
**antireflective** coating
- IT Polysilanes  
(crosslinked; properties of partially crosslinked polysilanes  
and polysilanes highly crosslinked with diethynylbenzene as  
bottom **antireflective** coating for deep-UV lithog.)
- IT Photoresists  
(deep-UV; polysilanes highly crosslinked with diethynylbenzene  
as bottom **antireflective** coating for deep-UV lithog.)
- IT Optical reflection  
Refractive index  
Surface roughness  
(lithog. performance of polysilane highly crosslinked with  
diethynylbenzene as bottom **antireflective** coating for  
deep-UV lithog.)
- IT Polycarbosilanes  
(polyacetylene-; lithog. performance of polysilane highly  
crosslinked with diethynylbenzene as bottom  
**antireflective** coating for deep-UV lithog.)
- IT Polyacetylenes, properties  
(polycarbosilane-; lithog. performance of polysilane highly  
crosslinked with diethynylbenzene as bottom  
**antireflective** coating for deep-UV lithog.)
- IT Antireflective films

(properties of partially crosslinked polysilanes and polysilanes highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT Etching  
(sputter, ion-beam, reactive; lithog. performance of polysilane highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT Crosslinking  
(thermal; properties of partially crosslinked polysilanes and polysilanes highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT 115-25-3, Perfluorocyclobutane 630-08-0, Carbon monoxide, uses 7440-37-1, Argon, uses 7782-44-7, Oxygen, uses  
(RIE; lithog. performance of polysilane highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT 471283-14-4  
(lithog. performance of polysilane highly **crosslinked** with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT 7631-86-9, Silica, processes  
(lithog. performance of polysilane highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT 1785-61-1, m-Diethynylbenzene  
(lithog. performance of polysilane highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT 9004-73-3, Poly[oxy(methylsilylene)] 49718-23-2 156894-03-0 471283-13-3  
(partially **crosslinked**; properties of partially **crosslinked** polysilanes and polysilanes highly **crosslinked** with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

IT 95584-36-4, Phenylchlorosilane homopolymer, sru 99936-07-9, Phenylchlorosilane homopolymer  
(properties of partially crosslinked polysilanes and polysilanes highly crosslinked with diethynylbenzene as bottom **antireflective** coating for deep-UV lithog.)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 27 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:291857 HCAPLUS

DOCUMENT NUMBER: 136:316933

TITLE: **Antireflective** porogens for forming porous organo polysilica dielec. materials in fabrication of electronic devices

INVENTOR(S): Zampini, Anthony; Gallagher, Michael K.

PATENT ASSIGNEE(S): Shipley Company L.L.C., USA

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1197998	A2	20020417	EP 2001-308629	2001 1009
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
TW 588072	B	20040521	TW 2001-90124895	2001 1009
JP 2002284997	A2	20021003	JP 2001-312551	2001 1010
US 2002065331	A1	20020530	US 2001-974072	2001 1011
US 6576681	B2	20030610		
US 2002198269	A1	20021226	US 2002-154504	2002 0524
US 6599951	B2	20030729		
US 2003022953	A1	20030130	US 2002-192893	2002 0711
US 6596405	B2	20030722		
PRIORITY APPLN. INFO.:			US 2000-239026P	P 2000 1010
			US 2001-974072	A3 2001 1011

AB The present invention relates to removable porogen composition useful for forming porous organo polysilica dielec. materials in the fabrication of electronic devices, wherein the porogen comprises one or more chromophores. The porogens of the present invention are useful in reducing dielec. consts. of organo polysilica dielec. materials. Also disclosed are methods of forming electronic devices including the step of forming a relief image on an organo polysilica dielec. materials, wherein the relief image is formed without the use of **antireflective** coatings.

IT 352694-64-5, Divinylbenzene-poly(propylene glycol)methyl  
ether acrylate-vinyltrimethylsilane copolymer  
(porogen; antireflective porogens for forming porous  
organo polysilica dielec. materials in fabrication of  
electronic devices)

RN 352694-64-5 HCAPLUS

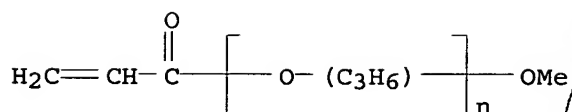
CN Silane, ethenyltrimethyl-, polymer with diethenylbenzene and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 83844-54-6

$$\text{CMF} \quad (\text{C}_3 \text{ H}_6 \text{ O})_n \text{ C}_4 \text{ H}_6 \text{ O}_2$$

CCI    IDS, PMS

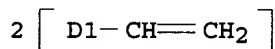


CM 2

CRN 1321-74-0

CMF C10 H10

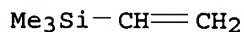
CCI IDS



CM 3

CRN 754-05-2

CMF C5 H12 Si



IC ICM H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38, 76

ST antireflective porogens polysilica dielec layer;  
electronic device fabrication

IT Electronic device fabrication  
(antireflective porogens for forming porous organo  
polysilica dielec. materials in)

IT Antireflective films  
(antireflective porogens for forming porous organo  
polysilica dielec. materials in fabrication of electronic  
devices)

IT Silsesquioxanes  
(antireflective porogens for forming porous organo  
polysilica dielec. materials in fabrication of electronic  
devices)

IT Dielectric films  
(porous; antireflective porogens for forming porous  
organo polysilica dielec. materials in fabrication of  
electronic devices)

IT 92068-44-5, Methylsilanetriol-phenylsilanetriol copolymer  
104133-11-1, Methylsilanetriol homopolymer 153315-80-1  
(antireflective porogens for forming porous organo

polysilica dielec. materials in fabrication of electronic devices)

IT 115775-34-3, Butyl acrylate-trimethylolpropane trimethacrylate-3-(trimethoxysilyl)propyl methacrylate copolymer 352694-60-1, Butyl acrylate-hydroxypropyl methacrylate-trimethylolpropane trimethacrylate-3-(trimethoxysilyl)propyl methacrylate copolymer 352694-61-2, Butyl acrylate-divinylbenzene-vinyltrimethoxysilane copolymer 352694-62-3, Divinylbenzene-poly(propylene glycol)methyl ether acrylate-vinyltrimethoxysilane copolymer 352694-64-5, Divinylbenzene-poly(propylene glycol)methyl ether acrylate-vinyltrimethylsilane copolymer 352694-69-0, Butyl acrylate-trimethylolpropane trimethacrylate-vinyltrimethylsilane copolymer 405296-71-1, 9-Anthracenyl methacrylate-2-hydroxyethyl methacrylate-methyl methacrylate-trimethylolpropane trimethacrylate copolymer 410536-27-5, Divinylbenzene-polyethylene glycol methyl ether acrylate-vinyltrimethoxysilane copolymer 410536-28-6, 9-Anthryl methacrylate-polyethylene glycol methyl ether acrylate-trimethylolpropane trimethacrylate-vinyltrimethoxysilane copolymer 410536-29-7, Hexyl acrylate-methyl methacrylate-polyethylene glycol methyl ether acrylate-trimethylolpropane trimethacrylate-vinyltrimethoxysilane copolymer (porogen; antireflective porogens for forming porous organo polysilica dielec. materials in fabrication of electronic devices)

L35 ANSWER 28 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:919091 HCAPLUS

DOCUMENT NUMBER: 136:38624

TITLE: Dimensionally stable optical retardation films with good adhesion and gas impermeability for liquid crystal displays

INVENTOR(S): Washimi, Koichi; Miyamoto, Yoshikazu; Kumasawa, Hideaki

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001350017	A2	20011221	JP 2000-167163	

2000

0605

PRIORITY APPLN. INFO.: JP 2000-167163

2000

0605

AB The films comprising thermoplastic saturated norbornene resins show residual phase difference 100-500 nm. Thus, a film of hydrogenated 1-Hexene-8-methyl-8-carboxymethyltetracyclo[4.4.0.12, 5.17,10]-3-dodecene homopolymer (prepared by ring-opening polymerization) was coated on one side with a fluoropolymer and bonded to glass via a pressure-sensitive adhesive containing Bu acrylate-2-hydroxyethyl methacrylate-divinylbenzene copolymer to give an

optical retarder showing dimensional change 0.5% after 300-h storage at 85° and relative humidity 80%.

IT 380885-47-2P, Adeka Reasoap NE 30-ethyl vinyl ether-4-hydroxybutyl vinyl ether-perfluoropropyl vinyl ether-VPS 1001 block graft copolymer (antireflective layer; dimensionally stable optical retardation films with good adhesion and gas impermeability for liquid crystal displays)

RN 380885-47-2 HCAPLUS

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with  $\alpha$ -[(3-aminopropyl)dimethylsilyl]- $\omega$ -[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 4-(ethenyloxy)-1-butanol, ethoxyethene, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane and  $\alpha$ -[1-[(nonylphenoxy)methyl]-2-(2-propenyloxy)ethyl]- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), block, graft (9CI) (CA INDEX NAME)

CM 1

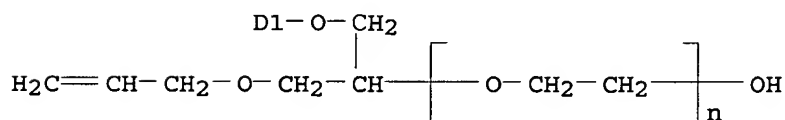
CRN 111144-60-6

CMF (C2 H4 O)<sub>n</sub> C21 H34 O3

CCI IDS, PMS



D1-(CH<sub>2</sub>)<sub>8</sub>-Me

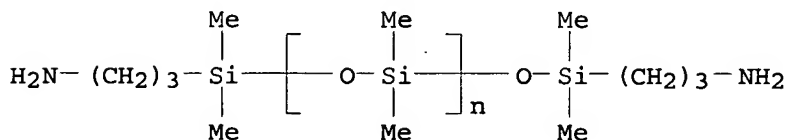


CM 2

CRN 97917-34-5

CMF (C2 H6 O Si)<sub>n</sub> C10 H28 N2 O Si2

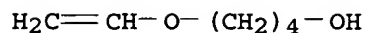
CCI PMS



CM 3

CRN 17832-28-9

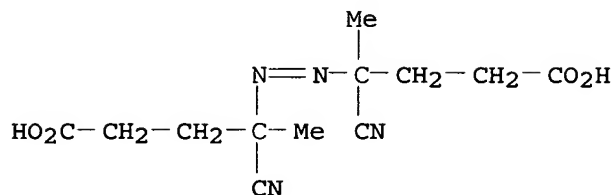
CMF C6 H12 O2



CM 4

CRN 2638-94-0

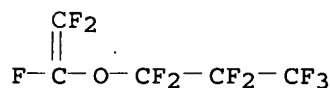
CMF C12 H16 N4 O4



CM 5

CRN 1623-05-8

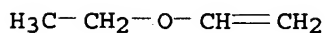
CMF C5 F10 O



CM 6

CRN 109-92-2

CMF C4 H8 O



IC ICM G02B005-30

ICS C08J005-18; G02B001-11; C08L045-00; C08L065-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 74

IT Adhesives

Antireflective films

Liquid crystal displays

Optical films

(dimensionally stable optical retardation films with good adhesion and gas impermeability for liquid crystal displays)

IT 380885-47-2P, Adeka Reasoap NE 30-ethyl vinyl

ether-4-hydroxybutyl vinyl ether-perfluoropropyl

vinyl ether-VPS 1001 block graft copolymer

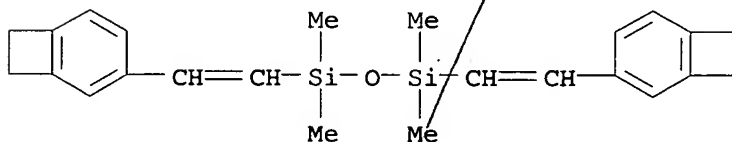
380885-48-3P

(antireflective layer; dimensionally stable optical

retardation films with good adhesion and gas impermeability for

liquid crystal displays)

L35 ANSWER 29 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:911493 HCAPLUS  
 DOCUMENT NUMBER: 136:254453  
 TITLE: Low-dielectric constant bisbenzocyclobutene  
 and fluorinated polyarylene ether films as  
 bottom **anti-reflective**  
 coating layers for ArF lithography  
 AUTHOR(S): Chen, H. L.; Chu, T. C.; Li, M. Y.; Ko, F. H.;  
 Cheng, H. C.; Huang, T. Y.  
 CORPORATE SOURCE: National Nano Device Laboratory, Hsinchu, 300,  
 Taiwan  
 SOURCE: Journal of Vacuum Science & Technology, B:  
 Microelectronics and Nanometer Structures  
 (2001), 19(6), 2381-2384  
 CODEN: JVTBD9; ISSN: 0734-211X  
 PUBLISHER: American Institute of Physics  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The authors demonstrate a bottom **anti-reflective**  
 coating (BARC) layer for ArF lithog. The **anti-**  
**reflective** layers are composed of a com. low-dielec.  
 constant bisbenzocyclobutene (BCB)- and fluorinated polyarylene  
 ether (FLARE)-based films. By adding an optimized etching  
 hard-mask layer, reflectance of <1% at the resist/Si substrate  
 interface can be achieved. BCB and FLARE also have great  
 potential to be used as BARC layers on highly reflective  
 substrates for metal interconnect applications. It is easy to  
 reduce reflectance without adding an extra BARC layer for  
 patterning low-dielec. materials. It is convenient to use this  
 BARC structure in ArF lithog. Suitable etching characteristics  
 and thermal stability of BCB- and FLARE-based BARC layers are also  
 described.  
 IT 124221-30-3  
 (low-dielec. constant **anti-reflective** coating  
 layer composed of bisbenzocyclobutene and fluorinated  
 polyarylene ether films as bottom **anti-**  
**reflective** coating layer for ArF lithog.)  
 RN 124221-30-3 HCAPLUS  
 CN Disiloxane, 1,3-bis(2-bicyclo[4.2.0]octa-1,3,5-trien-3-ylethenyl)-  
 1,1,3,3-tetramethyl-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 117732-87-3  
 CMF C24 H30 O Si2



CC 74-5 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 IT Photolithography  
 (ArF; low-dielec. constant **anti-reflective**

- coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT Sputtering  
(etching, reactive; low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT Antireflective films  
Dielectric constant  
Electric insulators  
Photomasks (lithographic masks)  
Photoresists  
Thermal stability  
(low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT Fluoropolymers, uses  
Silsequioxanes  
(low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT Etching  
(sputter, reactive; low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT 75-46-7 7727-37-9, Nitrogen, reactions 7782-44-7, Oxygen, reactions  
(etchant; low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT 124221-30-3  
(low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT 11105-01-4, Silicon nitride oxide 272115-24-9  
(low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT 403804-25-1, DHA 1000  
(photoresist; low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for ArF lithog.)
- IT 7429-90-5, Aluminum, uses 7440-21-3, Silicon, uses 7440-33-7, Tungsten, uses 7440-50-8, Copper, uses 12033-62-4, Tantalum nitride (TaN) 25583-20-4, Titanium nitride (TiN)  
(substrate; low-dielec. constant **anti-reflective** coating layer composed of bisbenzocyclobutene and fluorinated polyarylene ether films as bottom **anti-reflective** coating layer for

ArF lithog.)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L35 ANSWER 30 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:143712 HCAPLUS

DOCUMENT NUMBER: 134:179709

TITLE: Crosslinkable silicon polymer compositions and  
plasma-etchable **antireflective** films  
with good abrasion resistance and strength for  
resists

INVENTOR(S): Mori, Shigeru; Hamada, Yoshitaka; Tabei,  
Eiichi

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001055512	A2	20010227	JP 1999-231969	1999 0818
JP 3562569	B2	20040908	JP 1999-231969	1999 0818

PRIORITY APPLN. INFO.: JP 1999-231969

AB The compns. contain (a) Si polymers (Mw 500-500,000) having Si-Si bond and  $\geq 2$  Si-H group, (b) HC.tplbond.CAC.tplbond.C(SiR1R2 C.tplbond.CAC.tplbond.C)nH or (YC.tplbond.CAC.tplbond.C)3-aSi(R3)a(Q)bSi(R3)c(C.tplbond.CAC.tplbond.CY)3-c [A = (un)substituted phenylene; R1, R2 = H, alkyl, alkenyl, alkynyl, aryl, alkoxy, amino, C.tplbond.CAC.tplbond.CH; Y = H, [SiR1R2(Q)bSiR1R2C.tplbond.CAC.tplbond.C]nH; Q = O, (CH2)m, (un)substituted phenylene; R3 = H, alkyl, alkenyl, alkynyl, aryl, alkoxy; n = 1-10; m = 0-6; a, c = 0, 1, 2; b = 0, 1], and (c) hydrosilylation catalysts. Thus, a composition containing [(MePhSi)2(MeHSi)2(Me2Si)2]n (Mn 2470, Mw 5330) 100, (p-HC.tplbond.CC6H4C.tplbond.C)2SiPhH 20, and BTTB 25 (peroxy benzophenone) 20 parts was spin-coated and cured to give a film showing pencil hardness 5H and no solubility in toluene.

IT 326856-21-7P 326856-25-1P 326856-31-9P

326856-35-3P 326859-60-3P

(crosslinkable polysilane compns. for plasma-etchable  
**antireflective** films for resists)

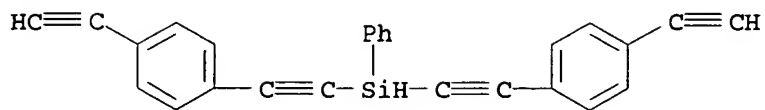
RN 326856-21-7 HCAPLUS

CN Silane, dichlorodimethyl-, polymer with bis[(4-  
ethynylphenyl)ethynyl]phenylsilane, dichloromethylphenylsilane and  
dichloromethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 326856-20-6

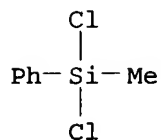
CMF C25 H16 Si



CM 2

CRN 149-74-6

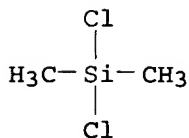
CMF C7 H8 Cl2 Si



CM 3

CRN 75-78-5

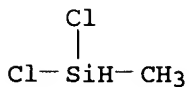
CMF C2 H6 Cl2 Si



CM 4

CRN 75-54-7

CMF C H4 Cl2 Si



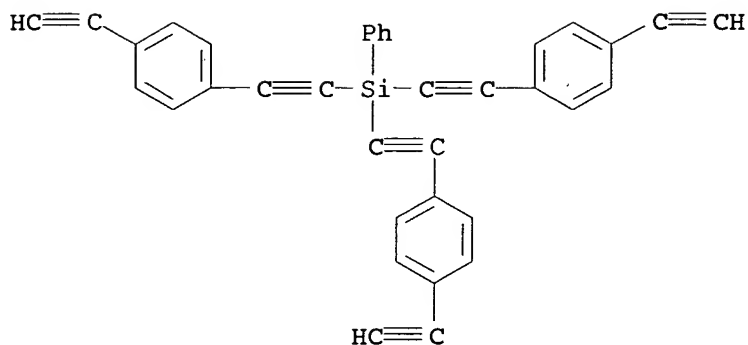
RN 326856-25-1 HCAPLUS

CN Silane, dichlorodimethyl-, polymer with  
 dichloromethylphenylsilane, dichloromethylsilane and  
 tris[(4-ethynylphenyl)ethynyl]phenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 326856-24-0

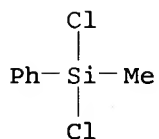
CMF C36 H20 Si



CM 2

CRN 149-74-6

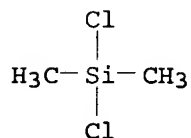
CMF C7 H8 Cl2 Si



CM 3

CRN 75-78-5

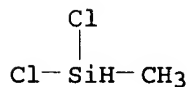
CMF C2 H6 Cl2 Si



CM 4

CRN 75-54-7

CMF C H4 Cl2 Si



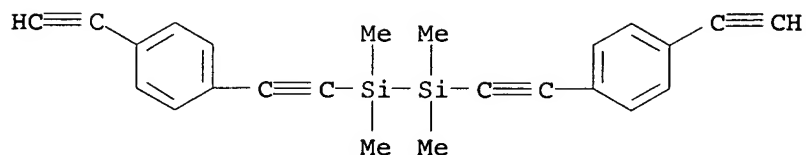
RN 326856-31-9 HCAPLUS

CN Disilane, 1,2-bis[(4-ethynylphenyl)ethynyl]-1,1,2,2-tetramethyl-,  
polymer with dichlorodimethylsilane, dichloromethylphenylsilane  
and dichloromethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 326856-30-8

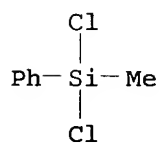
CMF C24 H22 Si2



CM 2

CRN 149-74-6

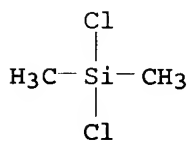
CMF C7 H8 Cl2 Si



CM 3

CRN 75-78-5

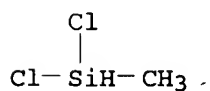
CMF C2 H6 Cl2 Si



CM 4

CRN 75-54-7

CMF C H4 Cl2 Si

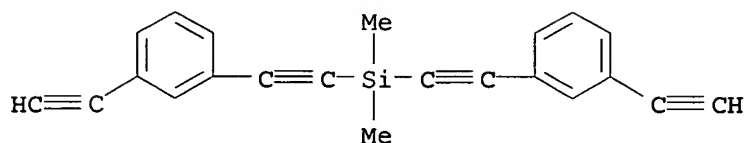


RN 326856-35-3 HCAPLUS

CN Silane, bis[(3-ethynylphenyl)ethynyl]dimethyl-, polymer with dichlorodimethylsilane, dichloromethylphenylsilane and dichloromethylsilane (9CI) (CA INDEX NAME)

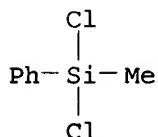
CM 1

CRN 326856-34-2  
CMF C22 H16 Si



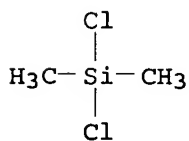
CM 2

CRN 149-74-6  
CMF C7 H8 Cl2 Si



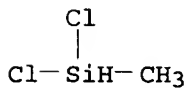
CM 3

CRN 75-78-5  
CMF C2 H6 Cl2 Si



CM 4

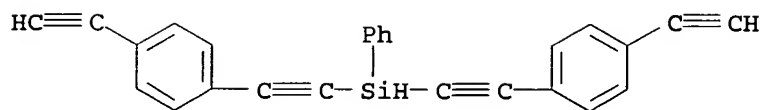
CRN 75-54-7  
CMF C H4 Cl2 Si



RN 326859-60-3 HCAPLUS  
CN Silane, phenylenebis[chlorodimethyl-, polymer with  
bis[(4-ethynylphenyl)ethynyl]phenylsilane, dichlorodiphenylsilane  
and dichloromethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 326856-20-6  
CMF C26 H16 Si

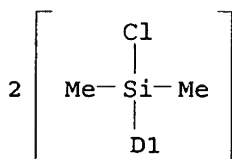


CM 2

CRN 30443-36-8

CMF C10 H16 Cl2 Si2

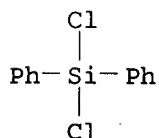
CCI IDS



CM 3

CRN 80-10-4

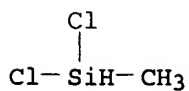
CMF Cl2 H10 Cl2 Si



CM 4

CRN 75-54-7

CMF C H4 Cl2 Si



IT 184886-16-6P 326856-50-2P

(oligomeric, crosslinking agent;

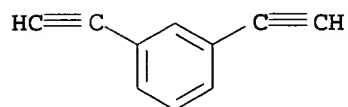
crosslinkable polysilane compns. for plasma-etchable  
antireflective films for resists)

RN 184886-16-6 HCAPLUS  
 CN Silane, dichlorodimethyl-, polymer with 1,3-diethynylbenzene (9CI)  
 (CA INDEX NAME)

CM 1

CRN 1785-61-1

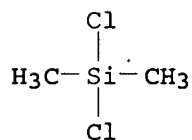
CMF C10 H6



CM 2

CRN 75-78-5

CMF C2 H6 Cl2 Si

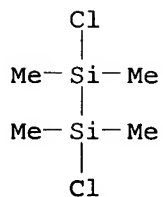


RN 326856-50-2 HCAPLUS  
 CN Disilane, 1,2-dichloro-1,1,2,2-tetramethyl-, polymer with  
 1,3-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 4342-61-4

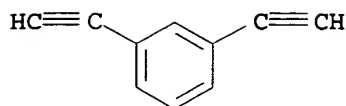
CMF C4 H12 Cl2 Si2



CM 2

CRN 1785-61-1

CMF C10 H6



IC ICM C08L083-16  
ICS C08G077-60; G03F007-11; H01L021-027  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 74  
ST silicon polymer plasma etchable **antireflective** film;  
hydrogen polysilane ethynylsilane compn **antireflective**  
film; resist **antireflective** film crosslinked polysilane  
IT **Antireflective** films  
Photoresists  
(crosslinkable polysilane compns. for plasma-etchable  
**antireflective** films for resists)  
IT Polysilanes  
(crosslinkable polysilane compns. for plasma-etchable  
**antireflective** films for resists)  
IT 326856-21-7P 326856-25-1P 326856-31-9P  
326856-35-3P 326856-39-7P 326856-42-2P  
326859-60-3P  
(crosslinkable polysilane compns. for plasma-etchable  
**antireflective** films for resists)  
IT 184287-08-9P 326856-55-7P 327596-35-0P 327596-36-1P  
(crosslinking agent; crosslinkable polysilane compns. for  
plasma-etchable **antireflective** films for resists)  
IT 98-13-5, Phenyltrichlorosilane  
(in preparation of crosslinking agent for plasma-etchable  
**antireflective** polysilane films for resists)  
IT 184886-16-6P 184886-21-3P 184899-03-4P,  
Dichlorophenylsilane-p-diethynylbenzene copolymer  
326856-50-2P  
(oligomeric, **crosslinking** agent;  
**crosslinkable** polysilane compns. for plasma-etchable  
**antireflective** films for resists)  
IT 1785-61-1  
(reactant for crosslinking agent; in preparation of crosslinking  
agent for plasma-etchable **antireflective** polysilane  
films for resists)

L35 ANSWER 31 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:287383 HCAPLUS

DOCUMENT NUMBER: 129:10762

TITLE: Composition for surface modification,  
antistaining layer therefrom, and optical  
filter and display device using same

INVENTOR(S): Kondo, Hirofumi; Hanaoka, Hideaki; Kobayashi,  
Tomio

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 JP 10120443                      A2            19980512            JP 1996-276315

1996  
1018

PRIORITY APPLN. INFO.:                      JP 1996-276315

1996  
1018

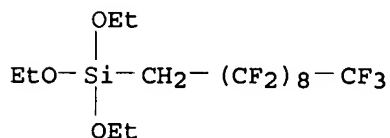
AB The title composition comprises alkoxysilanes  $Rf[R1R2Si(OR3)3]_j$  and/or  $Rf[Si(OR3)3]_j$  [ $Rf$  = fluoroalkyl, perfluoropolyether;  $R1$  = 2-valent atom or atomic group;  $R2$  = (substituted) 2-valent hydrocarbyl;  $R3$  = (substituted) monovalent hydrocarbyl;  $j$  = 1, 2] as lubricants which are dissolved in a mixture of an alc. solvent and a hydrocarbon solvent. The antistaining layer is obtained by applying the composition on an inorg. support. An optical filter having the antistaining layer on a plastic substrate via a mono- or multilayered antireflective film and a display device having the filter are also claimed. The antistaining layer is useful for optical imaging devices such as cathode-ray tube displays, liquid-crystal displays, plasma displays, and so on. The antistaining layer also has good properties in surface sliding and scratch resistance.

IT 207449-08-9

(composition of alkoxysilane in alc./hydrocarbon solvent mixture for antistaining coating on display device)

RN 207449-08-9 HCAPLUS

CN Silane, triethoxy(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluorodecyl)- (9CI) (CA INDEX NAME)



IC ICM C03C017-30

ICS G02B001-11; G09F009-00; H01J005-08; H01J029-89; G02F001-1335

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 42

IT 207449-08-9

(composition of alkoxysilane in alc./hydrocarbon solvent mixture for antistaining coating on display device)

L35 ANSWER 32 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:443157 HCAPLUS

DOCUMENT NUMBER: 127:73037

TITLE: Composition and solventless process for digital laser imagable lithographic printing plate production

INVENTOR(S): Nguyen, My T.; Laksin, Mikhail; Pappas, S. Peter; Shimazu, Ken-ichi; Hallman, Robert W.

PATENT ASSIGNEE(S): Sun Chemical Corporation, USA

SOURCE: Can. Pat. Appl., 19 pp.

CODEN: CPXXEB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

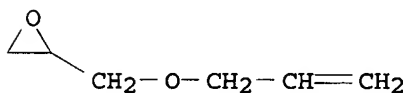
PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
CA 2186177	AA	19970323	CA 1996-2186177	1996 0923
ZA 9607894	A	19970407	ZA 1996-7894	1996 0918
PRIORITY APPLN. INFO.:			US 1995-532912	A 1995 0922

AB The invention comprises a waterless, multilayered lithog. printing plate imagable by digitally controlled laser ablation. The plate exhibits superior impression life and is produced by solventless methods to yield low volatile organic components. The plate contains a first solid substrate layer, a second IR-absorbing polymeric layer containing **crosslinked** functionality, and a polysiloxane top layer containing **crosslinked** functionality. At least the second layer and top layer contain interlayer **crosslinked** bonds. Optionally, the plate may contain a prime polymeric layer interposed between the first and second layers.

IT 106-92-3, Allyl glycidyl ether 9004-73-3,  
Syl-off 7367 59942-04-0, Ps-445  
(lithog. plate manufacture using digital laser imagable compns.  
containing)

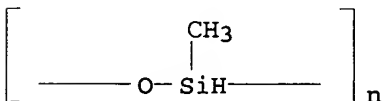
RN 106-92-3 HCAPLUS

CN Oxirane, [(2-propenyloxy)methyl]- (9CI) (CA INDEX NAME)



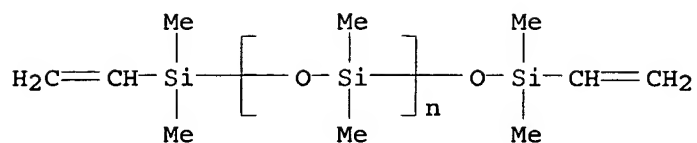
RN 9004-73-3 HCAPLUS

CN Poly[oxy(methylsilylene)] (8CI, 9CI) (CA INDEX NAME)



RN 59942-04-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -(ethenyldimethylsilyl)-  
 $\omega$ -[(ethenyldimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM G03F007-075  
ICS G03F007-36; B41N001-12  
CC 74-6 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
IT 96-08-2, Limonene dioxide 106-92-3, Allyl glycidyl ether  
5495-84-1, Quantacure ITX 7473-98-5 9003-11-6, Ps-072  
9003-17-2D, Poly(1,3-butadiene), internally epoxidized  
9004-73-3, Syl-off 7367 25085-98-7, Cyracure UVR 6110  
42978-66-5, Viscoat 310HP 59942-04-0, Ps-445  
94108-97-1, SR 355 102641-31-6, Ebecryl 657 117502-97-3,  
Uvecryl P 115 119313-12-1, Irgacure 369 134633-08-2, Byk-361  
189201-19-2, SarCat CD 1010  
(lithog. plate manufacture using digital laser imagable compns.  
containing)

L35 ANSWER 33 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:592459 HCAPLUS

DOCUMENT NUMBER: 113:192459

TITLE: Synthesis and properties of photoreactive  
polysiloxanes containing pendant functional  
groups

AUTHOR(S): Coqueret, Xavier; Hajaier, Adel;  
Lablache-Combiere, Alain; Loucheux, Claude;  
Mercier, Regis; Pouliquen, Lydie;  
Randrianarisoa-Ramanantsoa, Lili

CORPORATE SOURCE: Lab. Chim. Org. Macromol., Univ. Sci. Tech.  
Lille Flandres-Artois, Villeneuve d'Ascq,  
59655, Fr.

SOURCE: Pure and Applied Chemistry (1990), 62(8),  
1603-14

CODEN: PACHAS; ISSN: 0033-4545

DOCUMENT TYPE: Journal

LANGUAGE: English

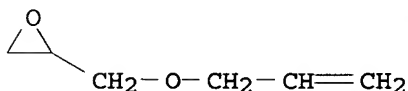
AB - Functional polysiloxanes containing photoreactive pendant groups were prepared by multistep modification of silicone copolymers containing methylhydrosiloxane units. One method based on Pt-catalyzed hydrosilylation of vinylsilyl-terminated photoreactive esters allowed preparation of liquid silicone polymers containing photodimerizable esters. Another method based on the esterification of pendant epoxy groups previously grafted on the silicone main chain was a general and very powerful alternative route for preparation of photo-reactive polysiloxanes. The method was applied to synthesize polysiloxanes containing various functional side groups such as dimerizable esters, aromatic carbonyl compds. or dyes which possess properties of photochem. interest. The reactivity, the ability to be photosensitized as well as some practical properties of different photo-crosslinkable polysiloxanes modified either by cinnamic, furacrylic or  $\alpha$ -cyano  $\beta$ -styrylacrylic ester groups were examined. A kinetic investigation of the reactivity of the polysiloxane-bound dimerizable chromophores indicated the effect of the silicone matrix in comparison with more classical hydrocarbon

photopolymers.

- IT 106-92-3DP, reaction products with polysiloxanes and acids  
 108527-03-3DP, reaction products with hydromethylsiloxanes  
 and epoxy ether siloxanes 117523-13-4DP, reaction  
 products with hydromethylsiloxanes and epoxy ether siloxanes  
 117523-14-5DP, reaction products with hydromethylsiloxanes  
 and epoxy ether siloxanes  
 (photosensitive, preparation and crosslinking of,  
 mechanism and kinetics of)

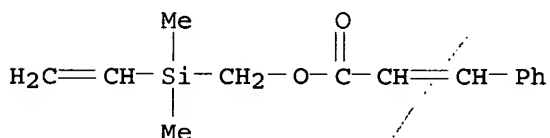
RN 106-92-3 HCAPLUS

CN Oxirane, [(2-propenyloxy)methyl]- (9CI) (CA INDEX NAME)



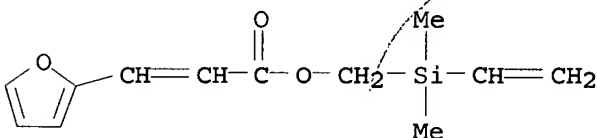
RN 108527-03-3 HCAPLUS

CN 2-Propenoic acid, 3-phenyl-, (ethenyldimethylsilyl)methyl ester  
 (9CI) (CA INDEX NAME)



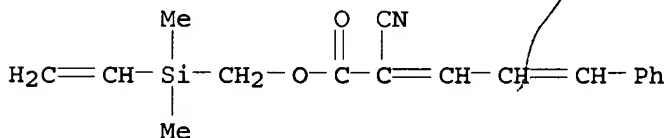
RN 117523-13-4 HCAPLUS

CN 2-Propenoic acid, 3-(2-furanyl)-, (ethenyldimethylsilyl)methyl  
 ester (9CI) (CA INDEX NAME)



RN 117523-14-5 HCAPLUS

CN 2,4-Pentadienoic acid, 2-cyano-5-phenyl-,  
 (ethenyldimethylsilyl)methyl ester (9CI) (CA INDEX NAME)

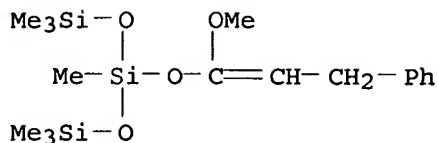


IT 130313-15-4P

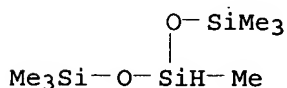
(preparation and hydrogenation of, as model for modification of  
 polysiloxanes)

RN 130313-15-4 HCAPLUS

CN Trisiloxane, 3-[(1-methoxy-3-phenyl-1-propenyl)oxy]-1,1,1,3,5,5,5-  
 heptamethyl- (9CI) (CA INDEX NAME)



- IT 1873-88-7  
 (reaction of, with Me cinnamate, as model for modification of polysiloxanes)  
 RN 1873-88-7 HCAPLUS  
 CN Trisiloxane, 1,1,1,3,5,5,5-heptamethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35, 74  
 ST polysiloxane photoreactive ester prepn; functional pendant group  
 polysiloxane; photochem **crosslinking** polysiloxane  
 pendant group; kinetics **crosslinking** polysiloxane  
 pendant group  
 IT Siloxanes and Silicones, preparation  
 (photosensitive, with photosensitive pendant groups, preparation and **crosslinking** of, mechanism and kinetics of)  
 IT Kinetics of **crosslinking**  
 (photochem., of polysiloxanes with photosensitive pendant groups)  
 IT **Crosslinking**  
 (photochem., of polysiloxanes with photosensitive pendant groups, mechanism of)  
 IT 106-92-3DP, reaction products with polysiloxanes and acids  
 621-82-9DP, Cinnamic acid, reaction products with epoxy siloxanes  
 24139-57-9DP, reaction products with epoxy siloxanes  
 25037-57-4DP, Octamethylcyclotetrasiloxane homopolymer, demethylated, reaction products with vinyl esters and allyl glycidyl ether 108527-03-3DP, reaction products with hydromethylsiloxanes and epoxy ether siloxanes  
 117523-13-4DP, reaction products with hydromethylsiloxanes and epoxy ether siloxanes 117523-14-5DP, reaction products with hydromethylsiloxanes and epoxy ether siloxanes (photosensitive, preparation and **crosslinking** of, mechanism and kinetics of)  
 IT 130313-15-4P  
 (preparation and hydrogenation of, as model for modification of polysiloxanes)  
 IT 1873-88-7  
 (reaction of, with Me cinnamate, as model for modification of polysiloxanes)